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FIVE YEARS  
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OR THEREABOUTS

MARGARET DRUMMOND



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FIVE YEARS OLD OR THEREABOUTS







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# FIVE YEARS OLD OR THEREABOUTS

SOME CHAPTERS ON THE PSYCHOLOGY  
AND TRAINING OF LITTLE CHILDREN

BY

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These things shall be ! A loftier race  
Than e'er the world hath known, shall rise,  
With flame of freedom in their souls,  
And light of knowledge in their eyes.  
J. A. SYMONDS.





## P R E F A C E

IN view of the activity and interest at present displayed in child-welfare schemes and nursery schools it is important that we should all realise that, unless such plans are based on a true knowledge of the nature and possibilities of the little ones concerned, much harm may be done and many opportunities will certainly be lost. The day is long past when it could be maintained that the education of the early years can be safely trusted to the maternal instinct. We all now recognise that instinct requires to be supplemented by knowledge; and the essential knowledge is to be obtained only by close study of the child. In a former book, *The Dawn of Mind*, I described the beginnings of such a study; in the present work I have set forth some of the further results which I have obtained during the last three years. Each child, no doubt, is different from all others; yet the path that all traverse in the course of their intellectual development is broadly the same, and the aim of this book will be attained if by its means the windings of that path are to some extent illumined for those who aspire to guide the little wayfarers.

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# TABLE OF NORMAL DEVELOPMENT

FIRST FIGURE, BOYS: SECOND FIGURE, GIRLS

Age.	Weight in lbs.	Height in Inches.	Chest Cir- cumference in Inches.	Head Cir- cumference in Inches.	
7 days	7½, 7¼	20½	13½, 13	14, 13½	Sucks vigorously. Kicks and moves arms freely. Sneezes. Can raise head. Reacts to sound.
1 month	8¼, 7¾	...	...	14½, 14	Sheds tears. Yawns. Holds up head for short time and turns it.
2 "	10½, 10	...	...	15, 14½	Eyes follow moving object. Begins to notice strange rooms.
3 "	12½, 12	23, 22½	15, 14½	16, 15½	Hands moved more freely. Grips object firmly. Smiles in response.
4 "	13¾, 13¼	...	...	16½, 16	Looks attentively at objects. Examines own hands.
5 "	14¾, 14¼	...	...	16¾, 16¼	Examines hands and feet. Begins to use two hands together.
6 "	15¾, 15½	...	...	17, 16½	Cuts two lower central incisors. Can sit erect for several minutes.
7 "	...	...	...	...	Stretches out arms to be taken. Makes many sounds.
8 "	...	...	...	...	Waves in response.
9 "	17½, 17	...	...	17½, 17	Tries to get objects. Plays Peep.
10 "	...	...	...	...	Understands simple commands.
11 "	...	...	...	...	Attempts to stand. Creeps.
12 "	20½, 19¾	29, 28½	18, 17½	18½, 18	Four upper incisors. Stands alone.
18 "	22¾, 22	30, 29½	18½, 18	18½, 18	Runs about freely. First words. Likes pictures.
2 years	26½, 25½	32½, 32½	19, 18½	19, 18½	Sixteen teeth. Says short sentences of two or three words. Scribbles with pencil. Reasoning.
2½ "	...	...	...	...	Knows name and use of many common objects. Twenty teeth.
3 "	31¼, 30	35	20½, 19¾	19¼, 19	Uses words Why? and When?
3½ "	...	...	...	...	Much initiative.
4 "	35, 34	38	20¾, 20½	19¾, 19½	Some appreciation of time and space.
4½ "	...	...	...	...	Can name some colours.
5 "	41, 39½	41½	21½, 21	20¼, 20	Knows letters. Can skip.
5½ "	...	...	...	...	Can count.
6 "	45, 43½	44, 43¾	23¼, 22¾	20½, 20¼	Permanent four molars. Can read, spell, and write simple words of one syllable.
7 "	49½, 48	46¼, 46	23¾, 23¼	20¾, 20¼	Knows days of week apart from special teaching. Can copy a diamond.



# FIVE YEARS OLD OR THEREABOUTS

## CHAPTER I

### INTRODUCTORY

‘To know a child is to love it, and the more we know it, the better we love it.’

These are the words of one of the greatest of our students of childhood, G. Stanley Hall ; and they contain a great truth — a truth which only those who have endeavoured patiently and sympathetically to know a child can realise.

The more intimately one knows a child the more clearly one sees his faults as our faults, his virtues as his own. The wonderful new human life which every year blossoms upon this planet of ours contains possibilities for good which would surpass a poet’s dream. Our greatest need is to know the nature of this young life that we may guide it aright.

Stanley Hall and others have done notable pioneer work in this region ; but it is not to be wondered at if much of the delicate intricacy of the child’s mental growth is still hidden from us.

Preyer and Perez and Miss Millicent Shinn have done much to guide us in our attempts to study the mental development which belongs to the early months of life. But even of babies we have still too few scientific studies, and most of these studies come to an end while the child is still in the actively formative period.

Many people indeed seem to believe that a child of six or seven is past the age for being studied.

Yet it is by continuing through the years of childhood the same close loving observation that we have given to the baby that we obtain insight into the intimate nature of the process by means of which the plastic and suggestible child, who, in the words of Whitman, actually becomes the first object he looks upon with wonder, pity, love, or dread, attains to that self-knowledge, self-reverence, self-control which alone avail to lead our life to sovereign power.

In *The Prelude* Wordsworth has described to us the growth of a poet's mind as seen in retrospect by himself.

We all know the wonderful lines in which he describes his early attitude towards nature :—

‘ Nature then  
To me was all in all. I cannot paint  
What then I was. The sounding cataract  
Haunted me like a passion: the tall rock,  
The mountain, and the deep and gloomy wood,  
Their colours and their forms, were then to me  
An appetite; a feeling and a love,  
That had no need of a remoter charm,  
By thought supplied, nor any interest  
Unborrowed from the eye.’<sup>1</sup>

Yet Wordsworth could not himself trace this passion to its root in the far-off years of childhood. What a fascinating revelation it would be had some trained observer by his side laid bare to us in detail the first steps of that path by which his mind attained communion with the ‘spirit that impels

‘ All thinking things, all objects of all thought,  
And rolls through all things.’

In the scientific works to which I have referred above we learn much about the development of perception and memory, of the gradual recognition of form and of colour,

<sup>1</sup> ‘ Lines on Tintern Abbey.’



of the appreciation of number, and of the acquisition of language. Yet owing to the fact that most observers seem to have ceased their work either before or soon after their subject has attained the age of three, we are left in ignorance of the way in which are built up those more or less stable sentiments and interests which go to constitute the mind of the adult.

Much light has been thrown on this problem by the work of Freud and Jung. But many studies of normal children are required before we shall be able to generalise with confidence.

Professor Ray Lankester has said, 'We boldly operate upon the minds of our children in our systems of education without really knowing what we are doing. . . . We know the pain and the penalty of muscular fatigue, but we play with the brains of young and old as though they were indestructible machinery.'

These words come home to us forcibly when we have occasion to examine any of the rickety, crippled, atrophied intellects which form the failures of our present schools.

In the science of medicine we are coming to recognise that the first duty of the physician is not to cure disease, but to prevent it.

In the same way the psychologist should not be called in after mental injury has taken place ; he should be consulted in time to prevent injury. Even at the present day—imperfect as our knowledge of child psychology still is—we have, I think, means at our disposal which would enable us at least to do this in all but very exceptional cases.

Still we want to do more than just to refrain from doing harm to the growing mind ; we want to direct it rightly. And the more intimately we know it, the more efficiently shall we be able to direct it.

In this book I have attempted to show something of the subtle interplay between the educative forces of the

environment, physical and social, and the receiving mind of the child. The study is based mainly on the close observation of one child whose early development I have traced in a previous work. My results I have supplemented and tested by the observation of children, with whom I have been in less intimate association. In the circumstances it is inevitable that there should be regrettable omissions. For example, Music suffers from the fact that my own musical education had not what I consider satisfactory results, and also from the fact that Margaret, though six, has not yet developed 'tunes in her voice.'

Religion also is not overtly treated. In this region what we teach the child must depend on what we believe ourselves, as well as on what he can absorb. If we decide to teach him dogma, we must be prepared for the fact that his keenly logical mind will see conclusions therein that we are not prepared to accept and that we may regard with repugnance as irreverent. It may be that the wisest way is to wait upon his questions, and give him the truth as far as we know it. But I am not yet prepared to say anything on this subject that has not been said by others.

Again, the fact that I am with the child only during the holidays, that is, roughly for two or three months in the year, renders it evident that there is a Margaret of whom I know comparatively little. It is true that I naturally have the good fortune to hear of her pretty regularly in the intervals; still, it is not possible to do much of one's observing through another person's eyes.

Nevertheless these deficiencies may serve a useful purpose if they stimulate others, who are more favourably situated than I am, to make them good.

It is only of recent years that any considerable body of women have received a scientific training. It is to such women that we must look for scientific studies of childhood. Such studies can be made in their fulness only by those who are with the child from infancy, who have fed him and

nursed him, dressed him and undressed him, trained him and attended to all his physical needs.

I wonder if one can ever hope to know a child unless one has bidden him good-night in his cot, and listened to the way in which he greets the morning.

In her charming book, *The Sayings of the Children*, Lady Glenconner says, 'The mother has learned many things in the company of these children, but one truth definitely is hers, and it is that her children teach her more than she teaches them.'

He that hath ears to hear, let him hear.

It would be ungrateful if in this place I did not refer to the debt owed by every lover of childhood to Dr. Montessori.

The method of education which she has devised opens wide the doors of freedom to the child. We no longer restrain the activity of his limbs by swaddling clothes. We know that strength and health depend on the free exercise of his body. But in most of our schools we still attempt to exercise the minds of the children according to rule ; we ignore their individuality and strive to turn them out all of one pattern. Nature of course laughs our attempts to scorn. We cannot do what we set out to do. But the children suffer.

At one time many people thought that the freedom advocated by Dr. Montessori would result in noise, disorder, and destruction. We have only to look into any happy nursery where a large amount of freedom is always allowed to see that this is not the case. As a matter of fact most children have no desire to destroy things ; many of them have a passion for order and rejoice in what is dainty and beautiful.

With respect to the little children under her care a lecturer on the Montessori system once said, 'We don't *teach* our children to love one another ; we just let them do it.'

With love in the schoolroom, order is a matter of course. The Montessori children have emerged from the bondage of the law to the freedom of the spirit. Courtesy and loving kindness are the source of all discipline worthy of the name ; and these Dr. Montessori takes for granted.

A much more important question is whether the method really promotes intellectual growth. Evidence with regard to this must be sought in the schoolroom. I hope that my experiment with the grammar material reported in Chapter VI. will throw some light on what actually goes on in the mind of the child while he is using the material.

I should have welcomed an opportunity of experimenting in the same way with the number material. It would have been a privilege to watch the gradual efflorescence of the child's intellect and her joy in acquiring the secrets hidden in the attractive material. I have not yet enjoyed this privilege, but in handling the number material myself, in actually working with the ingenious bead frame, in doing Long Division in the concrete, I felt a fascination which must be enormously greater in the child. In ordinary methods of teaching arithmetic it is the teacher who pushes the child away from the concrete, when she thinks he ought to be ready ; in the Montessori system it is the child who gradually and almost imperceptibly rises above the concrete when he no longer needs its support. By the time the child in our schools has reached Long Division he has long since left the concrete behind, and too often he has also given up the idea that he need have any clear understanding of what he is doing. The Montessori child on the other hand need make no attempt to soar into the abstract until his wings have grown ; yet from the very beginning he sets down all his results on paper, so that he is able to take a trial flight whenever he chooses, and whenever he chooses he can once more claim the assistance of the concrete. No one hurries him ; no one clouds his thoughts. He is free to meditate. Also the time required for handling

the material favours meditation, and prevents that haste in consumption which produces mental, just as it produces physical, indigestion.

Many of our best educationists hesitate to adopt the Montessori system, because it rests upon rigidly defined material. They fear that this will result in rigidity of teaching ; that all life will be lost. One may admit that material which has to be used in a certain definite way does lie open to this danger, if it is to be used by unintelligent people. But I must say that in the case of the Montessori material I think this danger is practically negligible.

We must remember that one of the fundamental principles of the method precludes any child from being compelled to make use of the material. Again, the teacher's part is limited to the introduction of the material at the right moment. She has, as it were, to show the child how to play, to give him the rules of the game, and then leave him to acquire skill himself. No one thinks of complaining of the deadening effect of tennis or football, because the material used is strictly defined.

The material as given to us by Dr. Montessori is such as to suggest in detail each step in the progress of thought. Yet the material is of no use without the teacher ; it is she ' who has to live and make live.' ' Her delicate work of intervention is a task hard enough in itself ' ; and therefore she ' should be relieved as much as possible of the delicate labour of preparation and research.' ' When we ask a teacher to respond to the needs of the inner life of man, we are asking a great deal of her. She will never be able to accomplish it unless we have first done something for her by giving her all that is necessary for that end.' <sup>1</sup>

The Montessori teacher requires not only the faith and the patience and the vision of the scientist, but she requires a deep knowledge and a philosophic appreciation of number and language. Under the direction of such a teacher and

<sup>1</sup> *The Advanced Montessori Method*, ii. p. 47.

with the aid of the material the process that goes on within the child's mind will take its place with all natural growth processes. It will appear as an evolution from within. The child's mind will be a unity, and all his knowledge will be instinct with life. I do not see how in this system absolute failures would be possible. It is true that all may not attain the stature of the oak, but all would be free to attain perfection after their kind. Confusion of mind, the arch-enemy of the teacher, would be banished. Bounded by themselves, and undistracted by the fever of some differing soul, the children would be free to concentrate all their powers on their own tasks—tasks prescribed by themselves, by their own passion for knowledge, a passion which exists more or less in every infant, but in many cases is stifled by education instead of being fostered.

The ordinary methods of education are not amenable to the nature of the child. They do not even yield themselves to that mode of work which is most congenial to us all. Like most of us the child naturally works on the intensive method. He likes to go at a thing. This tendency of his does not, I think, depend on the fact that he thus sees his own progress. But no doubt this does have some effect in confirming his method of work.

This characteristic of the child receives little encouragement in the ordinary school where we must do so much reading, so much writing, so much arithmetic every day, and where we have to cease work not because we require time to assimilate what we have been taking in, but because the bell has sounded.

My class of little people were working at Geography. 'There's the bell,' said I. 'That beast of a bell,' said Lilian. I fear discipline was never my strong point. Still I felt the need of a protest. 'Oh, Lilian, Lilian, you mustn't say that! Besides, the bell isn't a beast.' 'It is,' said she, 'when I'm engaged on geography.'

After all, is this not the true spirit of the student ? When one's heart is in some piece of work, one knows that one of the delights of a holiday is that now one feels one can go ahead with no outside claims to drag one's thoughts aside from their chosen path. The passion for study caused Prospero to find his library a dukedom large enough, and to grow a stranger to his state ; and this capacity for absorption is, I think, a universal characteristic of the little child. One of the factors in the great progress made by children educated on Montessori lines, is that the method makes use of this tendency instead of ignoring it and trampling it down.

In the primary school at Muzzano, near Lugano, a school conducted on Montessori principles, there was a boy who would do nothing but read for days and days. One of his schoolmates wrote on the blackboard, ' Giovanni does nothing but read ; when and how will he learn arithmetic ? ' Giovanni replied, still by means of the blackboard, ' It is quite true that I do nothing but read, but when I do start arithmetic I shall catch you all up with a bound ' (*con un salto di canguro*). And this, in fact, was what happened.

In this country, even under the present system of education, this characteristic of our nature sometimes comes to its own. When I was at school I knew four girls who wished to take an examination in German, usually taken by pupils who had had a year's more instruction in the subject than they had. For this they had to be prepared to translate from a prescribed book. A teacher kindly found time to go over their translation with them once a week. For this lesson they used to prepare just as much as they liked. They used to do perhaps twenty or thirty pages, an amount which certainly far surpassed anything that a teacher would ever have thought of prescribing. These four girls all took a higher place in the examination than their companions in the ordinary class. Of the four one had a special aptitude for languages ; the others had

not. What had carried them forward was the simple fact that the propelling force was within.

It was at school also that I knew another girl, to whom it was suggested in spring that she should take Honours Mathematics in the Leaving Certificate Examinations then held in July. This would involve 'getting up' Conic Sections and Dynamics, of which she knew nothing. She accepted the challenge, took the examination, and passed in both subjects, gaining distinction in Dynamics. She received absolutely no help, did not sit up late—a practice which would not have been allowed; she did not injure her health, nor did her ordinary school work suffer. Most of the preparation she gave to Dynamics was during one of the holiday weeks, when she almost literally did nothing else.

When I became a teacher, I had a pupil who had gone in for and passed with credit an examination in Physical Geography. She told me she had done the work prescribed for this entirely by herself, and had never enjoyed anything so much in all her life.

A few facts such as I have given would, I think, be of value to educationists, for it would encourage us to allow the children to take their own studies a little more into their own hands.

As soon as a child can read, he should be able to teach himself anything he desires to know. The teacher's function should largely be to act as a finger-post in the wilderness of text-books, and also as a guiding-star to inspire the child, and to illumine for him the far-off hills of knowledge. Group lessons should aim at culture, at enjoyment, not at the mere imparting of facts. Once I had a mathematical master. When a pupil offered him a particularly neat solution of a geometrical problem, he would spend a few moments sitting sideways on the desk with his back to most of the class, contemplating it; finally his thought would emerge in the form, 'Very pretty, very



pretty indeed.' Perhaps this was as good a lesson as I ever received. This aesthetic side of mathematics is often not enough cultivated.

For young students study needs to be vitalised by human emotions.

Speaking of his own University life, Francis Darwin says : ' A course I thoroughly liked was that given by the late Sir George Humphry, Professor of Anatomy. He used to sit balancing himself on a stool with his great hungry eyes fixed on us, talking in plain direct terms of anatomy enlivened by physiology. The one point that remains with me is the way he would stop and wonder over the facts he brought before us ; " This is a wonderful thing, one of the most wonderful things in the world. I know nothing about it—no one knows—you had better try and find out some of you." Simple words enough, but they struck the chord of romance in some of his hearers.'

This is perhaps the most important function of the teacher, to strike the chord of romance, to awaken the unresting and adventurous spirit which according to Lessing would prefer the search for truth even to the possession of truth.

When one thinks over facts like those given above, especially when one has had the privilege of intimate contact with the shining intellectual life of an unspoiled child, one sympathises with the outburst of Oswald Sydenham. ' Education,' he says, ' might be the greatest power in the world. . . . Give me the schools of the world, and I would make a Millennium in half a century. . . . We don't make half of what we could make of our children. We don't make a quarter—not a tenth. They could know ever so much more, think ever so much better. We are all at sixes and sevens.'<sup>1</sup>

To some this may read like hyperbole. It is the plainest matter of fact.

<sup>1</sup> *Joan and Peter*, by H. G. Wells.

## CHAPTER II

## MENTAL AGE

THE conception of mental age is one which it is very important that all teachers should fully understand.

We are all perfectly aware that we can easily teach an older child much that it would be perfectly impossible to teach a younger child no matter how long we talked, and no matter how clearly we expounded our theme.

I once spent a very profitable ten minutes with Margaret when a baby of about nine months. She had a rattle which was often hung on to the knob of her cot. When she wished to get it, she would hammer it promiscuously till she succeeded in knocking it off. On the particular morning in question she had done this. I took hold of the rattle. 'No, baby,' I said, 'not that way. This is the way.' I put the rattle on the knob, slowly moved it till the loop-handle was conveniently arranged and then lifted it off. I put it on again and said, 'Now, baby, you do it.' Baby grinned cheerfully, hammered vigorously at the rattle and in course of time knocked it off as before. I did not lose patience. I felt I was receiving a valuable lesson and I wanted it to sink deep. I picked up the rattle, put it on the knob, and once more with great deliberation showed the child how to perform the task. I then indicated the time had come for her to show how she had profited by the lesson. She ignored it. Once more she knocked off the rattle in her own wasteful, destructive, unscientific manner.

My lesson was a good one. It was not my fault it had not gone home. I might have repeated it indefinitely with no more success, for a year's *growth* was required before the child could profit by it.

I am reminded of this incident often when teachers tell me how patiently they have laboured to teach a child the difference between an adjective and an adverb, or the fact that two and two make four.

Margaret of course carried her mental age written on her face. Any one who had seen me would, I suppose, have said I was mad to expect a baby to learn in that way. The children with whom the teachers are dealing do not carry their mental age written on their face ; yet it is equally vain to attempt to teach them in five minutes, or an hour, or two hours, what requires a year's *growth*.

'I kept that boy in for half an hour yesterday,' says a conscientious teacher, 'trying to make him understand what is the subject of a sentence, and it was quite useless.' 'Worse than useless,' I feel inclined to reply. 'You wasted your own valuable time and nervous energy, and you probably did a positive harm to the child by deepening the impression already no doubt formed in him that the mysteries of grammar are beyond his understanding.'

But I have done the same kind of thing myself in my time, and the belief that we can teach, independently of the capacity of the subject to receive instruction, is not one that can be combated by words alone.

This belief, which causes the waste of an appalling amount of valuable time in our schools and produces an even more appalling amount of friction and unhappiness, rests upon the unformulated hypothesis that chronological age, mental age, and physical age all increase with equal step.

This hypothesis has merely to be formulated to be denied. We know, teachers say, that a boy may be mentally backward for his age just as he may be undersized.

Then why not act upon your knowledge ? Why not find out if a child is mentally old enough to profit before you attempt to force upon him instruction which is obviously distasteful ?

How interesting it would be for us teachers if a wizard would transform our classes so that each member looked his mental age and not his physical one. Here in the baby class we should see sensible little people of seven taking their place with many six-year-olds, normal five-year-olds and babies of four and three. Would we then attempt to teach them all alike? Would we insult the intelligence of the seven-year-old with a lesson suitable for the four-year-old? Would we bore the four-year-old with matter that would rejoice the seven-year-old?

Thanks to the work of Binet and Simon and a devoted band of followers the determination of a child's mental age is now a comparatively easy matter.

To say whether a child is normal for his age or not, we require first of all a standard. We cannot properly say that a child is below average in height or weight or any other quality till we have established the average. This is done by taking a large number of unselected children, measuring the quality under investigation in each of them, recording it, and finally in the ordinary way computing the average. The larger the number of children taken and the more widely distributed they are over the country that they represent, the more accurate is our result. For certain purposes we may of course select our children. Thus a middle-class parent would rather compare the weight of his child with an average obtained from a number of middle-class children than with one which was based on a study that included slum children. He would rightly feel that the latter average might give a false idea of what he should expect in his child.

Of course the very notion of an average implies that approximately as many people must be below it as above it, but no one wants his child to be among the former set.

Now in this world of ours qualities, such as height, weight, and others, are distributed in a very interesting way.

We all know by our casual observation that we are more likely to meet people who are about the average height than people who are very tall or very short. As regards height, most of us are 'much of a muchness.' Now it is quite possible to imagine a world in which this is not so—a world in which one would meet an extremely short person just as often as one met a middle-sized person and as often as one met an extremely tall person. If in such a world we were to take a few thousand unselected men and measure their heights and arrange our results in groups containing all individuals whose height fell between certain equidistant points on the scale, then we should find that all the groups were approximately equal. That is to say, if our shortest man was five feet in height, and we agreed that our first group should contain all men between five feet and five feet one inch, then there would be just as many men in this group as in any other similarly formed group. If we were to plot out our results in graphic form, setting out our scale on a base line and allowing vertical lines to represent the number in each group, we should find that by joining the tops of those verticals we should get a curve approximating to a straight line.

Our world, as we know, is not constructed in this way. But if we actually measure heights and set out our results as above, we come upon an extremely interesting fact. The curve we obtain is not of course a straight line, but it is symmetrical. Here for example is a curve obtained by measuring 8585 British men and plotting the results as described (Fig. 1). It will be seen that the group of men measuring between 67 and 68 inches is the most numerous, that there is a gradual decrease in the size of the groups as the representative measurements become either greater or less, and that this decrease is such that the curve is approximately symmetrical about a middle line. Science thus confirms our ordinary observation with regard to the way in which such a quality as height is distributed, and

amplifies it in this extraordinarily impressive and beautiful way.

Other qualities, which, like height, occur in an infinite number of gradations between certain definite limits, are found, when actual measurements are taken, to give a

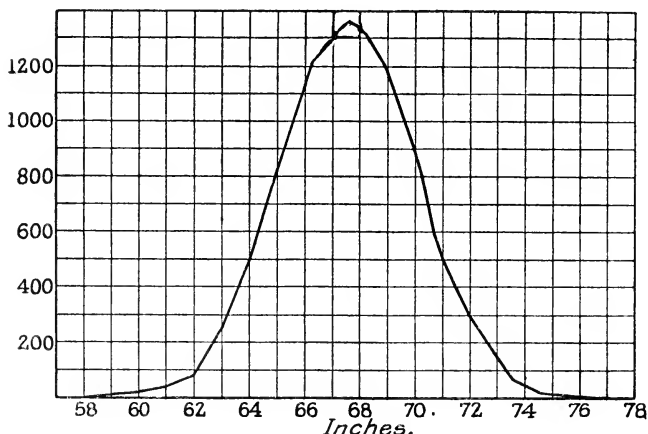


FIG. 1.

MEASUREMENTS OF 8585 BRITISH MEN.

From *Heredity*, by J. A. S. Watson, B.Sc.  
Jack's 'People's Books.'

curve resembling that shown above. The greater the number of cases examined the greater the regularity of the curve. A bell-shaped curve like this is now known as the Normal Curve of Variation (Fig. 2).

Now intelligence is a quality which in many respects appears to behave like height and weight. Intelligence is infinitely variable : there are all degrees of it. Again its extremes are rare : geniuses are few, idiots are few : most of us appear to cluster close about a certain mean. Where we can measure certain forms of intelligence, as by ex-

amination marks, it is found that results give approximately the normal curve of variation.

Examinations are of course not pure intelligence tests. They test memory, knowledge, capability of expressing oneself, and many other qualities, which may to some extent certainly be included in intelligence as the word is commonly used. But it is generally admitted, if we wish

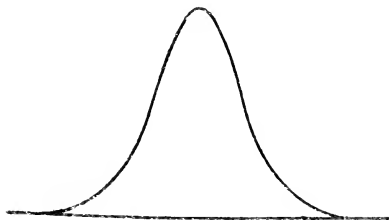


FIG. 2.

THE NORMAL CURVE OF VARIATION.

to test intelligence, we require something different from the examination as ordinarily conducted.

Moreover we require to establish an age norm. Even people who have considerable experience with children have no very certain criterion as to the ability of the average child.

**Method of Establishing a Norm.**—The idea of creating a scale by means of which to measure intelligence we owe to the genius of Binet, the brilliant French psychologist. The work that he did has now been very much amplified ; the Scale of Intelligence that he and Dr. Simon produced has been extended and adjusted by various workers, and in its present form is a very satisfactory and informative instrument.

Recently in America there have been published two books, *The Stanford Revision and Extension of the Binet-Simon Scale for Measuring Intelligence*, and *The Measure-*

*ment of Intelligence, an Explanation of and a Complete Guide for the use of the Stanford Revision and Extension of the Binet-Simon Intelligence Scale.*

No one who wishes to use the Scale can afford to do without this second book.

The general idea of the Scale is this: that there are certain capacities, and certain pieces of knowledge that the child of average intelligence should possess at a certain age, and that it should be possible to discover that age. In the Scale we find set down for the different school ages a series of questions which normal children who have attained that age should be able to answer.

The Stanford Revision, which is the culmination of several years' work by Professor Terman and his colleagues at Stanford University, is based on results obtained from about a thousand school children. The answers to the tests given by these children were worked over so that the Scale might adequately represent the grades of intelligence found in them. The children tested were all within two months of a birthday, so that the age groups did not shade into one another. In arranging the tests the object kept in view was to grade them so that the median Intelligence Quotient should approximate to 100, the Intelligence Quotient of any child being defined as his mental age divided by his chronological age and multiplied by 100. Thus if a child of nine years of age tests at nine years of age his I.Q. would be 100; if he tested at ten, his I.Q. would be 111, that is  $\frac{10 \times 100}{9}$ .

These statements will become clearer if we consider one of the graphs given by Professor Terman. Let us take that showing the distribution of the I.Q.'s of 79 unselected eleven-year-olds (Fig. 3). The median is at 98. This means that if we arranged these 79 children in order of intelligence as represented by their I.Q.'s we should find that the middle child had an I.Q. of 98—that is, ap-



proximately 100, as required by theory. We see too from the form of the curve that the distribution of intelligence thus measured conforms to the normal curve of variation. Most of the children are grouped closely about the average. The groups are smaller as we descend or as we ascend the Scale, and the stupid children and the clever children almost exactly balance one another.

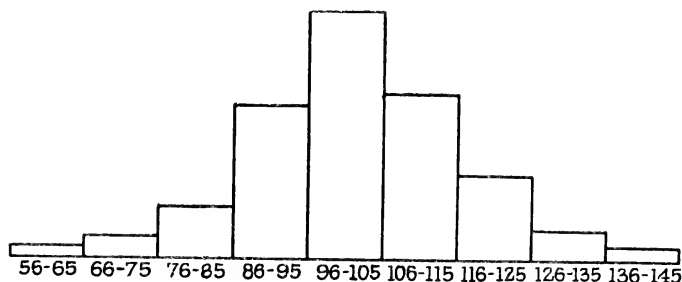


FIG. 3.

DISTRIBUTION OF INTELLIGENCE QUOTIENTS OF  
79 UNSELECTED ELEVEN-YEAR-OLDS.

In testing a child we usually begin with the tests assigned to the year below his age and carry him on as far as there seems any prospect of his being able to go. We then compute his mental age by crediting him with the year at which he has passed all the tests, and with a proportion of a year for every test he passes above that level.

In order to put the tests properly one must study very carefully the directions given in Professor Terman's Guide and abide very closely by them.

In this book when I speak of mental age I have in view mental age as determined by this Scale.

When the value and the possibility of testing intelligence come to be realised, and when arrangements are made for testing on a large scale, it will mean an enormous saving of time, patience, and money.

It is well known that psychological tests were extensively applied in the American army. The value of these tests proved itself so quickly that in the Official Bulletin of 22nd January 1919 it was announced that 'the Chief of Staff has approved the recommendation of the Surgeon-General for the extension of the psychological examination to all enlisted men, and all newly appointed officers of the Army, and has approved plans for carrying out these examinations.'

The Commander of a division, General Cronkhite, stated in an interview : ' It may be revolutionary, but the psychiatric Board's intelligence tests will play a great part in this division. These tests are virtually conclusive ; they have proved so in thousands of cases. And men who show a high intelligence rating will be watched closely—will be given every chance for advancement. Their daily work will be taken into consideration, and if they deserve promotion they will get it. This is the programme from top to bottom, officer and private.'

Some of the results of the psychological examination will be surprising to those who have not gone into this question. Between 27th April and 30th November 1918 there were reported 4744 men with mental age below seven years ; 7762 between seven and eight years ; 14,566 between eight and nine ; 18,581 between nine and ten—that is, altogether 45,653 men who were possessed of intelligence less than that of an average child of ten years of age.

It is quite clear that to spend money on elaborate training and equipment for these men would be pure waste. Yet many of them no doubt could do valuable work ; it is quite possible that many of them were physically strong and could be of real use in labour battalions ; and in such battalions if allowance were made in an amiable and friendly way for their mental peculiarities the men might be perfectly happy.

There is some evidence to show that the Intelligence Quotient remains fairly constant for the individual. Further

experimentation is desirable here ; but it may safely be said if a child has an I.Q. of 120 or more that child has a mind which is worthy of the best kind of education ; whereas if a child has an I.Q. of 80 or less, there is little use in worrying him with abstract instruction, which will only confuse his dull mind, and render him unhappy.

In *Little Dorrit* Dickens has depicted for us in Maggy one type of the child that never grows up. For such children we are now forming special schools and special classes, and in time I suppose there will be farm colonies and institutions where such as Maggy can be taken care of. Yet the American results indicate that there must be many people who with the intelligence of a child are struggling along in a world that must often prove too much for them. Much of the education they have received has been over their heads and has therefore done them more harm than good. The money thus spent has been worse than wasted. Had their intelligence been estimated in their early childhood and had they received an education suited to it, they would both have been happier and have proved more profitable citizens.

What part, I wonder, do these concealed children take in the affairs of the country ? Are any to be found on Town Councils, on Education Authorities, in Parliament itself ? It is not likely. But if the wizard I have imagined above were to stand at the door of the polling-booth, and transform the voters so that their appearance revealed their mental age, we might have an interesting light shed on the way in which the destinies of an Empire are supposed to be determined.

In the Stanford Revision the tests for 'average adult' and 'superior adult' were standardised on the basis of results obtained from 400 adults. Among them were 30 uneducated business men. Of these 15 tested at 'average adult,' 8 at 'superior adult,' 6 at 'inferior adult,' and 1 at thirteen years. According to the scale average

young people of fifteen to seventeen years of age should test at 'average adult,' those from seventeen to nineteen at superior adult. Of 32 high-school students, who were sixteen years of age or over, 22 tested at 'average adult,' 5 at 'superior adult,' and 5 at 'inferior adult.'

The question might be raised whether a university should open its doors to any one who fell below average adult level.

We need not, however, concern ourselves only with those who are below average intelligence. In some ways the case of those who are above average intelligence is more pressing both for their sake and the sake of the country. At our present stage of civilisation, intelligence, however great, cannot rise to the height of which it is capable without suitable education in the plastic period of youth. Many of our self-made men are no doubt persons of very high intelligence, yet their lives are not as complete as they ought to be, because they have not had the advantages they ought to have had at the right time.

I remember seeing a year or two ago that one of our labour leaders in referring to some taunts of his opponents which described him as a man of no education, had said that no one knew that better than himself; and then he utterly broke down. Surging up from the unconscious had come the hardships and the struggles and the disappointments of his childhood, and all in a moment had swept his virility aside. This is a tragedy. And it is a tragedy that science should not now permit. Children of superior intelligence, no matter to what social station they belong, should be encouraged to aim at places of responsibility and power—not of course for their own sake, but for the sake of the country—and all that school or university can do for them in the way of education should be done.

Terman speaks of children who have an Intelligence Quotient between 120 and 140 as being of very superior intelligence. It is sometimes imagined that these very clever children are apt to be nervous, delicate, or peculiar

in some way or other. This idea does not accord with facts. When giving lectures on the tests to the teachers' institutes, Professor Terman made a practice of asking for the brightest child in the city or county as a subject for demonstration. In such circumstances he usually got an I.Q. between 130 and 140. These children he finds as a general rule to be as superior physically and morally as they are intellectually. They are generally favourites with their companions and indeed with every one who knows them.

In school the very bright children are almost always advanced for their age, but yet are doing work which is easier for them than it ought to be.

This waste of the precious years of youth should not be allowed to continue.

By this time I have, I suppose, tested not less than a hundred children with the Binet Scale, which I began to use some ten years ago; and naturally I have tested Margaret more than once.

I find that when I make a statement to a teacher friend about the education of little children, she sometimes says, 'But you must not generalise from your little niece, or expect to obtain from other children what you obtain from her.'

As a matter of fact I find I can generalise from Margaret perfectly well by making allowance for mental age, and for certain differences in upbringing and environment. As one would expect, Margaret's intelligence is above average, as is also that of most children of her class who have been surrounded by cultural influences from babyhood.

But in the beginners' class in the elementary school one meets also many children of superior intelligence who would respond as Margaret does to work which would make a real demand upon their powers. These children should be given vision; the path to 'King's treasures' should be made plain before them, and we need have no doubt but they would walk thereon.

## CHAPTER III

## THE UNCONSCIOUS MIND

‘It is more important to have had a good past than to be able to recall it.’

A considerable number of years ago I read these words in an American work on memory. They are words which repay meditation. We are apt to think that after we have forgotten an experience, it cannot much matter one way or another. A child has had a painful experience which after a time passes completely from his memory. He never speaks of it, never thinks of it. It has gone from his life. It is, we think, the same as if it had never been.

Modern psychology is proving more clearly every day how fatally mistaken is this belief. The numerous cases of psychic disturbance brought about by shell shock have been proved again and again not to be entirely the product of what appeared to be the cause, but to be grounded in some mental injury or pain suffered by the sensitive mind of the child and long since forgotten by the subject. In other words the modern trouble is rooted in the unconscious.

Much has recently been heard of the unconscious mind, and to many people the expression seems a contradiction in terms. Nevertheless the phrase, whether a good one or not, stands for a number of important facts, and it is with these facts I am at present concerned.

Perhaps the simplest way to approach them is to ask ourselves what are the contents of the unconscious mind.

In the first place we have all the material which we *could* call up into consciousness, but which is not there at present. My knowledge of French, of German, of Geography has at present no conscious existence because I am not thinking about it. This material, as we all know, is not absolutely

at our command. For example I am often unable to recall a foreign word, although I am sure I know it. For this inability there are often psychological causes. There are at work within my mind repressing factors of which I am unaware.

In the second place there are memories which we cannot voluntarily recall, but which special circumstances may bring back to us. Sometimes such memories can be revived in hypnosis.

Of such memories some at least have not been allowed just to slip away into oblivion, but have been definitely *pushed* into oblivion, because they are unpleasing to us. Such memories are said to be repressed. They are not gone altogether ; they may continue to affect our conduct in ways which we do not understand. They are, for example, often responsible for certain acts which appear to ourselves and to others to be meaningless. In particular they are often responsible for certain compulsive acts or for certain obsessive ideas.

Besides these contents of the unconscious there seems to be a deeper stratum still which some writers have called the 'primitive.' This material, according to the doctrine of the Zurich school, is not derived from individual experience at all but from racial experience. It finds expression in the myths of all ages and nations ; it causes us to offer sacrifices, to bestow fair names on what we fear, to animate nature with the life we feel pulsating in ourselves. The language of this stratum of the unconscious is not that of science but of poetry. It guides the work of the artist, the inspiration of the poet ; it sees in all things symbols of the deepest life of man.

The ways of thinking determined by the primitive unconscious resemble the ways of acting which we call instincts. They are manifested most plainly in childhood. Our developed self often dislikes and denies them ; yet they remain in us and form one source of the conflict which

destroys the happiness of so many lives. We may thrust them into the unconscious and forget that they ever played a part in determining our conduct ; yet in symbolic form they find expression in our dreams, and when resistance is weakened by illness or shock, they may storm the citadel.

Primitive interests and primitive modes of thinking find freest expression in the child before social pressure has been brought very strongly to bear upon him. The little child inhabits the garden of Eden, and is able openly to rejoice in himself as Nature has made him. He is, until he is taught better, frankly interested in the great mystery of life and in the functions of all living things. But he readily learns there are some things about which we speak, if at all, only to our mothers or those nearest to us. This amount of social repression does, I think, no harm. But certain children are subjected to severer repression than this. The adults with whom they associate are, because of their own psychic history, honestly shocked at the little ones' questions, and the questioners are quick to feel this, quick to feel that there is a mystery here which they are not supposed to probe.

In these matters the child should always be met on the tableland of science. He should be told the truth as far as he can understand. It is easy to impress upon him—primitive man knew this well—that there are things so sacred that we do not speak of them lightly. If the inquiries of the child are simply suppressed, especially if they are suppressed with a certain amount of emotional reaction, then a division in the personality is apt to arise. Meredith uses in one of his novels the strong expression 'men of murdered halves.' The danger is not so much when the half is murdered as when it is only partially suffocated. It lurks in the unconscious and gathers strength for occasional upheavals into the conscious, upheavals which are often incomprehensible and hateful to the cultured personality.



Our aim in education is not to suppress the primitive—a proceeding which robs its possessor of strength and may lead to conflict so severe that adaptation to life may become impossible—but to sublimate the primitive tendencies so that they may find an expression which is in accordance with our modern social ideas.

The primitive expresses itself in the child's natural turn for forms and ceremonies. It teaches him to regard all things as made after his own image—as symbols.

A class of small children were once making a map of England. As one of them put the sign for the meridian of Greenwich, 0°, 'Mother and child,' she said, and gave a little laugh. This is a very characteristic ebullition of the unconscious.

In the Free Kindergarten one day I saw the same idea expressed by the Montessori cylinders—the ones which differ in height. A little girl arranged them so that beside each tall cylinder stood a short one. The interpretation was clear. 'Mother and child' again.

If you were asked to fetch something from another room, you would not, as a rational person, find that it would add to your joy in the commission to have it couched in the following terms: 'Run to the foot of the stairs, go slowly up to the drawing-room, when you reach the middle of the room jump three times, go to the table and bow once to the right and once to the left, then take the red book you will see lying there, and come back to me as quickly as you can.' Yet Margaret would receive such commands with shining eyes, and would even come to me to have a commonplace request translated into this language of mystery.

One knows how easily ritual establishes itself in a child's life. Certain ceremonies and a certain order must be observed in connection with his dressing and undressing, his meals and all the other events of his life. The strong attraction that the Roman Catholic Church possesses for

many minds springs partly from the primitive in our nature.

The child needs no teaching to make him realise the potency of ceremony. In all the realm of magic he finds himself at home.

One day we had some friends coming to supper and had to extend the table. I said to Margaret we would do 'a magic,' and she would see the table grow bigger. I took the key with appropriate gestures, and proceeded to turn it. The child was greatly excited during the process and a little frightened. She rushed off to 'Nana,' shouting, 'The table's walking along with its skin off; it's showing its inside;—it's showing its bones.' The event made a deep impression on her. Three months later she told me I was going to get a surprise when I came to table, and she added in a very knowing manner, 'Perhaps you think I'm going to wind it up and make it walk, but I'm not.'

One can make use of this tendency in the child. Margaret's mother was once complaining of her forgetfulness of some injunction; it just went 'in at one ear and out at the other.' 'Come here,' I said to her; 'I'll put it in so that it won't come out.' So I put one hand over her right ear and spoke very distinctly and impressively into her left. Two or three days later she said spontaneously, 'I still remember that thing you put between my ears.'

At the same time this part of the child's nature is not a part one would wish to cultivate. Its thoughtless encouragement often leads to sorrow and disappointment and even disaster. It is the part to which fairy stories make their appeal; the passion of many children for these tales may be attributed to the fact that the primitive in themselves stirs in responsive movement.

'The later events of life . . . owe a large portion of their power for harm to the fact that they reproduce in new shape old emotional excesses and limitations, of childish form and childish substance. Children love fairy stories,

and love to invent them for themselves ; and they often go on—still as children, more mature in years, but still immature in fact—telling themselves fairy stories to the end of time.’<sup>1</sup>

In these fairy tales of ours people are puppets for our use. Few of us ever take the trouble even to try to see people as they really are. If we did we should mark their inconsistencies and their failures with a more sympathetic eye. We should know of their struggles, their blind wrestling with themselves. We should know how deeply true are Meredith’s lines :

‘ In tragic life, God wot,  
No villain need be ! Passion spins the plot :  
We are betrayed by what is false within.’

It is only the chosen few who in this brief life can tame and turn to use the dragon forces which draw their sustenance from unrecorded time.

The egoism of the child—an egoism which is not to be called selfish—is pandered to in the worst way by many fairy stories. The hero, with whom the child identifies himself, obtains success not by hard work or by his own virtue, but by magic aid, by good luck, or, worse still, by simple cunning. Everything falls out for his glorification, however little he deserves it. The princess is taken to wife by the king, because she cheats him into believing she can spin straw into gold. No child that I have heard of ever asks what the king did, when he found out the fraud that had been practised upon him. And yet one would imagine that that was both an obvious and an interesting question.

Stories of the type referred to should be banished from our nurseries.

We know the child will play the part of the hero. Let us at least give him heroes worthy of his imitation. The

<sup>1</sup> *Human Motives*, J. J. Putnam.

stories even if absolutely forgotten mould the unconscious in such a way that their influence may appear in conduct years afterwards. Who knows how many of the gallant deeds of the war were due to stories assimilated by our boys in their nursery days ?

Margaret and I have a cycle of stories which centre round a child known as Little Mary. Little Mary came into being when Margaret was three and a half. Little Mary is slightly older than Margaret, but she is also an only child, and has doubtless borrowed other characteristics from Margaret ; so the latter is probably within her rights if she appropriates Little Mary.

In one of the first of these stories the roses in her garden had told Mary that they wanted rain to make them grow. That night Mary heard pitter-patter, pitter-patter on the window pane. Never shall I forget the intense concentration on my baby niece's face as she whispered, '*It was rain.*'

Later, considerable dramatisation of the Mary stories took place, and Margaret threw herself into the character with almost more ardour than was good for her. I refused to continue the personation during real meal times, as she wished. She compromised on, 'Well, I'll really be Mary, and you'll really be my Nana ; but I'll call you Auntie, and you'll call me Margaret.'

One morning she told me, 'I was really Little Mary all night, but I p'etended to be Margaret.'

I have tried to find in Margaret a source of knowledge with respect to the beginnings of visual imagery. I asked her one day if she ever saw Mary in her head. 'No,' she said, 'because I *am* Little Mary.'

One snowy morning Margaret was standing at the window dreamily watching the swiftly falling flakes. She began to murmur, 'Quicker and faster, quicker and faster' ; then after a moment she turned to me and said, 'I was Little Mary. Do you remember how she said that, and how

Jackie told her to keep away till he shook off the snow ? ' It was some three months since that story had been told, and I doubt if Margaret could have recalled it voluntarily ; the sight of the snowflakes had released the memory.

Margaret will forget all about the Little Mary stories. Indeed already Mary is fading away, as I divert Margaret's attention to a higher type of literature ; yet for good or for evil Little Mary lives on in Margaret ; and I created Little Mary !

Can one wonder if there are educators who assert that they could make what they liked of a child, if they had full control of the first seven years of his life ?

In a child's spontaneous play, in the chatter that wells up without effort or direction on his part, those who have eyes to see and who have an intimate knowledge of the child's life may obtain priceless indications of the way in which his character is forming. Notes of such chatter taken at the time may often throw a vivid light on future developments. In them we may obtain insight into the formation of these wishes which in riper years often appear as overmastering impulses, the source of which is not understood.

My four-year-old niece is playing on the floor with her dolls, her bricks, and a dolls' kitchen. We are alone in the room. I am writing at the table, apparently paying no attention. I hear the following.

' You're a mischievous little thing putting your legs in my pocket. . . . You naughty girl, you're not putting on your clothes.'

This was repeated many times with variations in a singing voice.

' I think I hear her beating up omelettes in the kitchen ; she's not tidying the house. Do you know, Auntie, Mary Jane does nothing in our house ? She only cooks. She never lays the table or anything. She does nothing. I'll tell you, dear, what I think you should do when I've got

you dressed ; I think you should go down and tell the cook to tidy the house. I think I'll make the omelettes ; and you should sit down and be very quiet till breakfast. She's a naughty girl, she won't dress herself. I tell her a hundred times. Don't you think I'm bringing her up nicely telling her so often and smacking her too ? Everything I tell her just goes in at her left ear and out at her right ear. Auntie's not listening to me and I'm very disappointed. You know if I don't tie her up tight, she'll go and get cold again the very next day, the very same cold from the very same microbe. I think people are microbes, for they mostly have colds. I wouldn't put on so many breeks as you. You put about a hundred breeks on them and a hundred petticoats. I'm glad I don't dress you the way you dress your dollies, else you'd be crying. Where's her outer clothes ? Her dress is here, her dress is here, I've got her dress here. Now, you poor doll. You know my dollies are very unthoughtful for their dollies. They put on a hundred shawls, a hundred petticoats, a hundred breeks . . . crying for heat . . . I'd put you to bed, for you're a naughty girl, I must say. Come on and we'll go downstairs and say that thing to the cook. . . . Now, you say, "Cook, tidy the house, and mother'll make the omelette." "

(Squeaky voice) 'Cook, tidy the house, and mother'll make the omelette and I'll sit very quiet till breakfast. You're not beating that egg right ; you're not putting a pinch of salt in it.'

'Yes, you're a good girl ; she's not doing it right. . . . Stove in the wrong place. . . . Now I'll be cook. It wasn't me that was making the omelette. It was Bridget, Br-r-r-r-idget. Now you make the omelette. Put Bridget away. Put her upstairs in that sack. Now, dollie, get your book . . . keep you quiet . . . I'll get any book for you two monkeys . . . keep you out of mischief, while mumma makes the omelette.' (A little crying sound is heard.) 'Is that you, you naughty girl ? Don't come

in the kitchen. . . . Wait till mumma gets a dish . . . puzzles me what to have for a plate, it puzzles me . . . attend to what you're doing, attend, attend, attend to what you're doing . . . there, to keep you out of mischief, I'll put you up. Yes, Bridget, why did you take yourself out of that sack?' (Faint protests on Bridget's part.) 'No, No, No' (very fiercely), 'I'll knock you away with this brick that I'm going to build the house with. I knocked her away and she died' (repeated several times as a song) . . . 'dish for the omelette. Divide you with an omelette, and divide you with an omelette, and divide you with an omelette . . .'—this to each of the family now apparently sitting round the table.

Now this play is full of allusions to the child's own life and her own little ambitions. It is perhaps needless to say that her own upbringing is not conducted on the lines she advocates, but most little girls have fits of harshness with their dolls. The reference to the sack puzzled me at first, till I suddenly realised that it was derived from the expression 'getting the sack,' though I should not have thought the little one had ever heard it. It must have struck her as a happy way of getting rid of some unwanted person.

I have given this play mainly because it seems to throw light on a little incident which happened more than a year later.

We were all in the country, and Margaret had been struck with the lovely idea of playing hostess. She rushed ahead as we came in from our walk, insisted on us all knocking, received us with formal politeness, and conducted us to our rooms. When the tea bell sounded she awaited us in the dining-room. I happened to arrive first. She assigned my seat to me; then seeing her opportunity, she rushed to the dish of scrambled eggs, and 'dealed them round' most deftly and seriously. When her mother came down a few minutes later Margaret was most anxious

to impress upon her that she had really done this, not just 'pretencely.' At the time I wondered at the concentrated expression of the child's face as she performed the division. It was only when I subsequently happened to be looking over some earlier notes that I perceived that the act was the gratification of an unconscious wish beginning in babyhood.

'To-day explains yesterday and to-morrow explains To-day, but we must wait till the last Day of All to understand everything.' Equally true is it that Yesterday explains To-day, and To-day explains To-morrow, and we must look far back to our very early childhood to find the beginnings of impulses and prejudices which largely determine our conduct to-day.

In one of his books George Birmingham introduces an Irishman who has two great hatreds—one for landlords and the other for financiers. But he did not hate financiers with anything like the fervour with which he hated landlords. For his hatred of the latter had begun when he was a barefoot baby crawling on the mud floor of his father's cabin, whereas his hatred of financiers was of comparatively modern date; and one never hates anything with real intensity unless one has begun to hate it before one is eight years old.

This observation of Birmingham's is psychologically sound. Those loves and hates so easily formed in the plastic mind of the child and the beliefs arising therefrom remain in many cases for life impregnable to the assaults of the reason. Nay, they make reason turn traitor to itself, and by a process known as rationalisation they contrive to masquerade as logical conclusions drawn from indisputable premisses. It is in this region that we must seek the explanation of the remarkable fact that many people honestly hold that their own opinions in politics and religion are the only ones tenable by any one who is not either a fool or a knave. The heat developed in discus-



sions on such subjects is a sure sign that it is our emotional much more than our rational nature that is concerned.

As children grow, their fantasy may express itself in other ways. When Margaret wakes in the morning she frequently indulges in a monologue before it is time for her to get up. One such monologue continued through her dressing, and when she came to my room it was still going on. It came forth in a chanting tone without any pause or hesitation. It purported to be a story of a little girl who was setting the tea ; she dressed her little sisters, one in a little pink muslin dress, and one in a little white muslin dress, and she set pinky beside her on one side, and whity beside her on the other side, and she put her father beside pinky and her mother beside whity, and she poured out a cup of tea and gave it to her mother. And so on through all the doings of the day.

Even the father and mother are just lay figures for the energetic little girl to work her will upon. I am told that only children are apt to be 'bossy,' and certainly this fantasy seems to indicate Margaret's unconscious craving for more scope than fortune has assigned her. Possibly for an only child some real responsibility is particularly desirable. It might be that animal pets would offer a solution of the difficulty, but in Margaret's case this has not been tried.

It is a wholesome symptom that a child should welcome the signs of his own growth and reach forward with glad expectation to maturity. No one should wish to detain him in the 'wee baby' stage. Some nervous illnesses seem to consist just in a retreat of the personality to the sheltered, protected state of the little child. One meets the beginnings of such a retreat in the student who looks longingly back to her college days, and formulates the wish, 'I don't want to be grown up.'

At each stage we should sympathise with the child's advance and encourage in him the forward look. We

know the trembling pride with which Baby rises to his feet and takes his first tottering steps. Later the small child marks as epochs those changes which to him betoken his own approach to the status of a man.

One day at dinner Margaret asked for some more meat, — ‘just a little.’ Her grandfather said he would not think of giving her more than a little, as she was a little person. ‘But I *am* growing,’ she responded with great earnestness. On meeting her nurse after a long holiday almost the first thing she said to her was, ‘I’ve been sleeping in a big bed, Nana.’ In similar circumstances she greeted me with, ‘I can dress myself.’

At table some one referred to her as a little girl. ‘I’m a big girl. Look! I’ve got a knife.’

Once when examining Kindergarten children I put the test question, ‘Are you a little girl or a little boy?’ ‘I’m a *big* girl,’ responded the mite I was addressing.

When the seven-year-old Alan was out with his father the latter noticed a windlass and rope, and began winding it up. Alan darted forward, and seizing the handle said, ‘It needs two men to do that.’

Dreams, according to Freud, form a royal road to the unconscious. Some years ago when I was trying to test this matter for myself I gathered a considerable collection of children’s dreams. Realising, however, how impossible it was to arrive at any interpretation of these dreams without coming into contact with the dreamers, I did not pursue the matter very far.

Recently Dr. Kimmins has made an extensive study of school children’s dreams, and by an examination of their manifest content has been able to make some interesting generalisations. Very suggestive is his finding that very few dreams are associated in any way with the school. This may be a sign that the school touches only the superficial layers of the child’s mental life. If so there is urgent

need that the teacher should find some method of penetrating deeper, so that the material given in school may really play a formative part in the creation of the personality.

One would think that Margaret's dreams would be easily interpreted, yet I seldom find them so. It is of course generally easy to trace them to some event of the day, but of their deeper meaning I cannot be sure. Her dreams seem to be mostly about animals, and she very often speaks aloud, but not always so that she can be understood.

One night when she was sleeping in my room, she startled me by a very loud 'Yes,' then another somewhat lower, then in rather tearful tones, 'Want to go in and stroke the beaver.' I called to her to reassure her, but she began quietly crying, and I had to go and soothe her. 'In the morning, as is very usual, she could not remember anything about the dream.

A couple of mornings later she gave a squeal, which made me speak to her. At breakfast time she told me she squealed because a butterfly fell on her neck; father had been touching the butterfly.

In the middle of the night she will, so far as I know, give little or no information about the dream if she wakes.

A dream of this period was about wasps crawling all over her dressed like people; they had hands and feet; one in a pink dress stung her.

Stories often affect the dreams.

I cannot be certain that any of the dreams of which I have knowledge represent wish fulfilments. Fear dreams seem to be common.

Dr. Boyd has made a collection of his little girl's dreams from the sixty-ninth month to the seventy-fifth.<sup>1</sup> He does not find that his facts accord with Freud's dream theories; but perhaps he scarcely makes sufficient allowance for the extreme complexity of mental life that obtains even in the six-year-old child.

<sup>1</sup> *Child Study*, October 1915.

I have not yet sufficient material to venture a positive opinion. Dr. Boyd is, I am sure, right in his contention that much light is to be expected in this region from the close study by trained observers of the dreams of young children.

There seems to be no doubt that we introduce conflict into the child's mind, and give rise to the possibility of much future trouble by unnecessary reticence on the subject of sex. It is natural that any intelligent child should inquire into the mysteries of life, and there is no more reason why any parent should put him off with mythology in this region than in any other.

A child is very sensitive to the suggestion of manner and tone. If he feels that in any region questions are not welcome or not proper, he will cease to ask them ; but his inner discomfort may be shown in his conduct.

I could give some instances of Margaret's attitude to these matters, but at present I see no purpose that would be served in doing so. She has always been treated frankly ; but in all children there are recesses into which even those most intimately associated with them have not penetrated. One cannot be always with a child, and influences are brought to bear upon them which one cannot trace. And the reticence that can exist in the child along with the most open and candid nature is a phenomenon well known to all students of childhood.

When Margaret was about three she would sometimes say, 'I wonder, I wonder.' One night I had been assisting in the ceremony of disrobing ; after the little one was in her cot, she started 'I wonder.' Then she said to me, 'I wonder what I wonder.' The philosopher uses many more words, but in face of the mysteries of life and death can he really say much more ?

It may seem absurd to suggest that a three-year-old child may speculate on these high questions, yet modern

psychology is proving more and more conclusively that few subjects are beyond the questing spirit of the little child.

Now there are certain phenomena which have interested the human race for untold ages, and which find a place in the myths of all nations. When we perceive that these phenomena rouse in children from the first time they make acquaintance with them an interest and emotional excitement which might well seem out of proportion to the occasion, are we justified in explaining this mental disturbance as due to the activity of the primitive within them ?

As a small contribution to a great subject I shall here gather together a few observations which seem to me relevant to this question.

We remember the part that the serpent has played in the dim life of the past. It has acted as tempter in the garden of Eden ; it twined up the tree Yggdrasil ; it is seen on the staff of Aesculapius and on the crown of one of the Egyptian gods ; on a serpent Vishnu sits enthroned ; a snake or dragon is the receiver of the sacrifice of maidens and the guardian of hidden treasure.<sup>1</sup>

When our little children stand transfixed at the sight of a worm squirming by the roadside, do all those racial memories stir confusedly in the depths of the individual mind ?

It certainly seems to me that, whatever be the reason, worms possess for children a peculiar fascination.

One morning I was returning with the two-year-old Margaret from an early walk. I was on the road ; she was on the side-path. Suddenly I heard in crescendo tones, 'Tat ! Tat ! Tat ! Tat ! Ahtie ! Ahtie ! Ahtie !' I looked at the wonder, and beheld a worm. Seeing that I remained unmoved, Margaret pulled herself together, recollected the business on which she had been intent—she was taking

<sup>1</sup> For the symbolism of the serpent, see Jung, *The Psychology of the Unconscious*, *passim*.

some flowers to her mother—and, saying sweetly ‘Ta-ta!’ to the wriggling animal, continued on her journey.

One day going along the Middle Meadow Walk I saw a cherubic boy transfixed in much the same way. This time the ending was different and much less pleasant for the worm. ‘Georgie! Georgie! Georgie!’ called the discoverer. Georgie, evidently accustomed to such marvels, came slowly forward. Seeing his calm, the cherub recovered himself. ‘I’ll kill it,’ he remarked cheerfully, and proceeded to tramp on it.

In the *Diary of a Free Kindergarten*<sup>1</sup> we read that ‘Wurrums’ cause tremendous excitement when the children are at work in the garden; and once when a party of teachers and fifteen children were in the country, they all stood in a ring for ten, or possibly fifteen, minutes watching the movements of the strange creature.

Natural phenomena such as thunder, lightning, wind, clouds, sun, moon and stars, earthquakes, rain, snow, hail, let loose the myth-making tendency in children. This tendency our explanations, fortunately for us, can do little to stop; for science is more and more becoming a great whole, of which each part is intimately bound to every other; hence it is inevitable that the reach of the child’s questions should far surpass the grasp of his understanding.

Even though the children of this country have no practical experience of earthquakes, yet their imagination seems to be fired by them.

Margaret was about four and a quarter when she was casually told, on the falling of a ‘palace’ she had built, that an earthquake must have knocked it down. A day or two later she was playing with her blocks before breakfast, and I heard the following: ‘I’m building an earthquake, and if any one comes out in the earthquake that clock’s to tell them the time. Do you feel all the place

<sup>1</sup> By Lileen Hardy. (Gay and Hancock.)

shaking with the earthquake ? There 's a fine arch, isn't it, for the earthquake ? That is an earthquake. I'm building all the things shaking like that. What do earthquakes do to doors, mother ?' (Jam them.) 'And then can't you open them ? Why ? I'm building an earthquake, Nana.' (Enter Nana with breakfast.) 'Let me finish the earthquake. Do earthquakes give winds, mother ? You know the kinds of winds that trees give ; do they blow, mother ? What a big earthquake it is, isn't it, mother ? It'll jam all the doors, won't it ? It's an earthquake I'm building now. Is it shaking your chair ?'

The association here of wind with trees is interesting. Not very long after this the child said, 'What wind, mamma ! I can never make out what it is, the wind, mamma !' 'What do you think it is ?' 'I think it's a tube train going shoo-oo-oo.'

The family was staying in London at this time.

I think it is very likely that the answer was not seriously intended, but is an illustration of childish reserve. We often find this reserve in the way in which a child will put a question of deep moment to himself ; he will throw it out in an offhand casual manner, so that the serious intent is often quite unsuspected by those whom he is questioning. In the same way when he himself is questioned, he swerves aside from any attempt to reveal his deeper thoughts, and conceals himself in a cloak of frivolity.

Margaret has not nearly finished with the wind yet. Mr. Wind has been her friend from babyhood, and even when he blew her hair into her eyes and she had to fight for breath against him, she would look bravely up, and say, 'He *is* having fun with me, isn't he ?' We were talking about him one day when she was nearly five ; unfortunately I have no exact note of what led up to her question ; she drew her breath in and out and asked, 'Am I making wind ?'

At one time I think she had had a story about Aeolus and the baby winds, but I do not know what effect this had on her thought.

Some months after the above question I have noted the following: 'Does wind always come before thunder?' 'It has nothing special to do with it.' 'But thunder and lightning are great friends, aren't they?'

When there are two children, the myth-making tendency has more scope, because the elder feels it incumbent upon him to satisfy the curiosity of the younger. Thus Alan, when he was about six, told his younger brother for a fact that a long time ago there was a huge lot of water under the earth, and that it had burst up at some one point like a waterspout, and had formed the sea. This legend was based on the known fact that when a deep hole is dug, water begins to collect in it.

Mythical explanations of interesting parts of the body are readily given. Thus one little girl asked her elder sister about the navel. 'Wait till the morning,' said the elder, 'and I'll tell you about it.' By the morning she had evolved the ingenious theory that the navel is the part from which you expand, from which the skin stretches out so that growth becomes possible.

Besides the wind Margaret has thought much about the clouds. It is not long since she confided in me, 'Before I was told, I used to think the greyness was the cover, and that there were holes in it that the water came through.'

A day or two ago I saw in a newspaper the remark of a little boy who after gazing for some time at the starry sky said, 'I like all those little holes that let the light come through.' This little fellow evidently believed in a very literal way in the curtain of the night.

All children speculate about death just as they all speculate about birth. Margaret is one of the most amiable and gentle of children—one of whom you would unhesitatingly say she would not hurt a fly—yet I have one or two



instances of her killing an insect in the most cheerful and friendly fashion. She was three when she one day informed me she had 'a nice little greenfly' on her dress; a minute or so later in the same conversational tone she added the statement that she had 'made it dead.' A few weeks later her father told me that when she was out with him she stamped on some small creature, and then inquired brightly, 'What was that insect that I deadened?'

Some light may be thrown on the apparent heartlessness of these acts by a question which came the following summer. I had been speaking of a large piece of shortbread that was once given me in my childhood, and my belief that it was enough to kill me. 'And did it make you dead?' inquired Margaret with interest.

When she was about four and a quarter she asked if she were good enough to die, but no one knows what put this notion in her head. She had been at school for a few weeks by this time, so it was less easy to follow her thoughts.

When she was four and three-quarters I called her a bud one day and said she would be a flower when she was a big girl. 'And what after that?' 'Perhaps a fruit.' 'And what after that?' I didn't know. 'I think I'd have to be an angel.' Later I inquired, 'What is an angel?' 'A person that lives in heaven, but you won't go there for a long time!' With natural anxiety I asked, 'Why?' and was relieved to hear the answer, 'Because you don't go to heaven till you die, and you never, *never* come back again.'

This seems sufficiently orthodox, but I cannot feel certain that Margaret is resting here. One day soon after she was five, her mother happened to say she loved her with her heart. 'You don't love me with your heart. It's *you* that love me.' . . . 'Is your heart a bit of you?' Her idea apparently was that it was not. 'Is your skin a bit of you?'

Our uncertainty as to the meaning of the term self is sure

to make difficulties for the logical mind of the child. I do not know whether the above conversation had any influence on an incident which came under my observation about a year later.

I was looking at a copy of the Saturday *Westminster Gazette* in which was an In Memoriam picture of Louis Botha clad in armour, recumbent on a tomb. Margaret asked about the man, and I said he was dead. She wished to know how that could be when he was there. According to her account she thought when people died they went straight to another world, body and all. 'What part goes?' she said. 'The thinking part,' I replied. Later I had the paper in my hand again, and the child became wildly impatient to see the picture once more. This emotional excitement is, as I said above, a symptom of the stirring of the unconscious.

Two days later we were playing personifications; Margaret lay down flat, announcing, 'I'm dead; I was killed by a stone.' So in her little mind there are contradictory ideas, which she has not yet brought face to face with one another. We are apt to think of the adolescent mind as more especially tormented by metaphysical difficulties, but this may merely be a time when doubts and fears which come with the very beginnings of thought rise once more to the surface.

## CHAPTER IV

## THE MOTHER TONGUE

IN the case of most children little attention is given to their education in the use of the mother tongue until they go to school at five years of age. Nevertheless, thanks to their gift of imitation and their tireless energy in practice, most of them, when their environment has been at all favourable, can at that age speak very well. A child of five ought to be able to make himself understood by any one, not just by those to whom his speech has been familiar from baby-hood.

Although it is true that most children do teach themselves to speak, yet we might with advantage help them a great deal more than we do.

In the first place, when we are associating with children it is our duty to make our own speech as distinct and as pleasing as we can. It is of great importance that a good model should be available for the child. We should, moreover, be particular in our choice of words ; any word is not good enough : we should take pains to select the most fitting word. We shall thus give the child the opportunity of acquiring a large and choice vocabulary. How much may be done in this way the following pages will to some extent show. Thirdly, we must never impede the child in his progress towards perfection by imitating his faulty pronunciations.

In many, perhaps most, cases a certain amount of definite instruction is desirable.

In acquiring speech children are, or ought to be, also acquiring ideas ; hence the importance of precision in the language we use when with them.

It is very instructive to watch closely a child's develop-

ment in speech ; this observation should be accompanied by carefully dated notes.

A child carefully brought up among well-educated people will at an early age speak with marvellous correctness. Such a child's speech often deteriorates when he goes to school, or when he associates much with other children or less well-educated adults.

**Word Practice.**—Children's chatter often gets upon their mother's 'nerves,' yet it ought not to be suppressed, for it is nature's method of teaching language. Those of us who have lived with a little child know that between the ages of two or three and five his chatter may be said without exaggeration to be unceasing. He talks, if allowed, *all* the time. The little children of our streets are so inarticulate when they come to school largely because their environment has been such as to discourage this natural flow of words.

If we study the early speech activities we may learn much which has an important bearing on educational methods.

First, in this spontaneous exercise the child is absolutely tireless. He talks for the sake of talking. He says the same thing over and over again for the mere pleasure of saying it. And we allow him. We do not say, 'Come and have your ten-minutes' or your half-hour's lesson in talking.' We just let him talk as much as he likes. And we do not trouble him with corrections. He pronounces badly, and he murders grammar. But we do not mind. We smile and say, 'It will come all right in time.' And it generally does.

If we were always correcting the child, always stopping him, trying to make him pronounce correctly, trying to make him observe the rules of syntax, what would be the effect ? Would not the little one begin to feel that language was much too difficult and troublesome a thing for him to learn ? Would he not cease talking ?

And yet by and by, when we come to teach spelling, and reading, and writing, do we not aim at obtaining perfection from the first? Do we not stress the child's errors? Do we not make him feel that these arts are very difficult, that it is very hard to make progress, very hard to satisfy the teacher? Where is the sense of joyful power that accompanied his gradual acquisition of the ability to talk? He soon tires of writing, he soon tires of learning to spell, but he never tires of learning to talk.

This is brought forcibly home to us by a study undertaken by an American parent. For one entire day he wrote down everything said by his three-year-old daughter. The result may be read in the *Pedagogical Seminary* for March 1916. It occupies thirteen large pages of small print. It consists of 11,623 words of which 859 are different. This child had an unusually large vocabulary, 2282 words, but the intensive practice is a common characteristic of childhood, a characteristic so remarkable that it is only because our minds are deadened by custom that we do not lose ourselves in wonder whenever we meet with it.

**Vocabulary.**—The size of a person's vocabulary is no sure index to his mental capacity. Yet in a general way the more intelligent person, and certainly the person whose interests are widespread, does tend to have a larger vocabulary than people less intelligent or less widely interested. Certainly in the case of children a large vocabulary is practically an unfailing sign of an alert intelligence.

**Method of Obtaining an Individual's Vocabulary.**—If we wish to obtain a child's vocabulary the method usually followed is to note every word used by the child during a certain period. Ten days is a convenient time. During that period the child is encouraged in every way to use as many words as possible. Pictures are shown him,

and he is invited to name objects and to describe actions. He is taken to places which will stimulate him to make use of any terms at his command. Sometimes he may discover that we are making lists of words, and he will co-operate and be greatly uplifted if he can bring us a word that we have not yet on our list.

It is well to use a separate sheet of paper for each letter of the alphabet. This device helps to prevent duplication, and also automatically classifies the words to some extent for us. Where a word can be used in several senses or as different parts of speech, it is important to note how it was used. It is usual to exclude plurals which are regularly formed, but *child* and *children*, *foot* and *feet*, and so on, count as two words. Similarly the inflexions of a regular verb do not count, but those of an irregular one do.

It is clear that the older the child is the less satisfied could we feel that by this method we should obtain even approximately his entire vocabulary. Up to about the age of five the method is applicable, if we have an observer who knows the child intimately, and who is conversant with all the ramifications of his interests and activities.

For adults and for older children resort must be had to another method. That commonly employed is to take a standard dictionary and go through it either in its entirety or by selecting words in accordance with a definite plan, say, by means of taking the last word on every sixth page. If we know the total number of words in the dictionary, the number of words presented to the individual tested, and the number correctly defined by him, then a simple proportion sum will give us his complete vocabulary. The larger the dictionary used the more reliable is the result.

It is to be hoped that in the near future representative lists of words will be published which will enable us to calculate individual vocabularies with less labour. In the *Stanford Revision of the Binet-Simon Intelligence Scale*, Professor Terman has published a list of a hundred words

selected by rule from a dictionary containing eighteen thousand ; by means of this test the vocabulary of any individual may be estimated by multiplying by 180 the number of words in the given list known by him. According to the experimental results obtained when this vocabulary test was being standardised, passable vocabularies for the different mental levels are as follows :—

8 years	20 words	.	vocabulary	3,600
10 „	30 „	.	„	5,400
12 „	40 „	.	„	7,200
14 „	50 „	.	„	9,000
Average adult	65 „	.	„	11,700
Superior adult	75 „	.	„	13,500

It is evident that these methods of obtaining individual vocabularies leave out of account the large number of words which we could understand if we heard them used, but which we cannot define when they are presented to us in isolation. In order to include this vocabulary Mr. Fred Gerlach, who has published a valuable monograph on the subject, devised the following ingenious test. One thousand words were selected by rule from a dictionary. Of these four hundred were found to be so uncommon as to be very generally unknown. These words the subjects undertaking the experiment were asked to define. For the other six hundred words four definitions were given of which one was correct. The subject was asked to mark the correct definition. Certain deductions were made from the number correctly selected to allow for the part which chance would play in the result. The total number of correct definitions obtained by the two tests was then multiplied by 250, the thousand words being representative of 250,000 ; and thus the subject's total vocabulary was obtained.

**Size of Children's Vocabularies.**—To procure a vocabulary is evidently a somewhat arduous task. We have

therefore still comparatively few satisfactory studies available. Moreover, naturally those that have been made—at least in the case of little children—refer to subjects whose environment is an intellectual one; that is, it is practically certain that the published vocabularies are representative of children who have had exceptional opportunities for amassing words, and who are by heredity exceptionally fitted to take advantage of their opportunities. Whipple makes the following statement: ‘In the twenty-odd published vocabularies, we find that children from sixteen to nineteen months are using from 60 to 232 words, that two-year-old children are using from 115 to 1227 words, and that the vocabulary increases rapidly from that time on. It is perfectly safe to assert that the average three-year-old child makes use of 1000 words. This holds true at least for the child who has an ordinary quantum of curiosity and a normal tendency toward linguistic imitation, and who is in daily contact with parents or older children who are ready to name situations for him as fast as they appear.’

On two occasions I have endeavoured to obtain the vocabulary of my little niece, Margaret. On the first occasion she was thirty-one months and she was able to use at least 726 words. On the second occasion she was twice as old (five years and two months) and was able to use at least 2195 words. On neither occasion were proper names counted.

For the first vocabulary I employed the method generally used with little children, namely that of writing down all the words employed by the child during the period of investigation. For the second vocabulary I used the same method to some extent, but realising that at the time circumstances were such that I could by this method get only very unreliable results, I also went through a small dictionary with the child's father, and he selected all the words which to his knowledge she freely used. The



number of words indicated by him was 1428, leaving 767 which were obtained directly from the child. This discrepancy shows, I think, that the father was extremely careful to mention no word which was not in frequent use by the child, and secondly that, as was to be expected, a considerable proportion of her vocabulary belonged to environments with which he was not conversant. When he was doubtful of a word I took a note of it and endeavoured to obtain its meaning from my little subject. This I very rarely failed to do—another sign that the figure given is an under-estimate. It is evidently a difficult thing for a child to give the meaning of an isolated word ; he may understand it quite well, and even be able to use it, when occasion arises, without being able to define it.

I did not of course ask Margaret for definitions. I suggested that we should play a sentence-making game, each sentence to contain a word chosen by the other player. The following will give some idea of the results that I obtained.

*Insect.* ‘Midges are insects and they like to come out in the night about four o’clock.’ (Credit.)

*Bill.* ‘Do you mean a dickie’s bill or a writing bill ?’ ‘A writing bill.’ ‘A writing bill is very much needed when we order things from a grocer’s shop.’ (Two credits.)

*Castor-oil.* ‘I’ve never tasted it ; it’s not a bit nice, I’ve been told.’ (Credit.)

Sometimes the sentences gave an interesting peep into the child’s play world. Here is one that is pure romance :—

*Chop.* ‘Do you mean the chop we eat or the chop we chop things ?’ ‘Eat.’ ‘A chop is a thing we eat and we have to put the bone aside, and if we had a dog we would throw it to the dog, and the dog would gnaw it up.’ ‘Now the other chop.’ ‘Once upon a time my father was chopping a bone into two, because we had two dogs and they were both quarrelling for a bone, so my father chopped

the bone into two, and gave one half to Billie and one half to Towser.' (Two credits.)

*Copper.* 'I don't know.' 'Couldn't you make a sentence?' 'I could make a sentence, but I don't know it.' 'Well?' 'My dressing-table is made of copper.' (Fail.)

That I had taught the child the regrettable fact that we can make sentences without understanding the meaning was shown a day or two later, when I gave her *Kernel*. 'Kernels do steal our food.' 'What is a kernel?' 'I don't know, but I made a sentence.'

*Ginger.* 'Don't like it.' 'How do you know?' 'I know because it's very hot—at least Margaret Wise's mother said it to Margaret Wise.' (Credit.)

The sentences sometimes opened terrifying vistas, for example :—

*Soot.* '“Brush the soot down the chimney, mother, because I know there's an awful lot in it, because I've just tried with your new best hat.” “Then you're a naughty girl and I'll send you straight to bed.”' (Credit.)

Some of the child's sentences threw an interesting light on the way in which words are picked up. Thus I asked for 'figure.' It was something of a shock to me when she returned 'You're a figure'; then she added enlighteningly 'a familiar figure.' I had no idea she knew this phrase, or this sense of the word figure. But a little inquiry elicited the fact that on seeing two members of the family at a distance a day or two before, I had remarked, 'There are two familiar figures.' The child had no idea what familiar meant.

That the exercise was a difficult one appeared in various ways. I tried several times to obtain the word 'gutter,' but in vain. One day when we were outside, she spontaneously remarked, 'I like walking in the gutter.' This illustrates the strong association between the actual object and its name. Similarly once when we were looking at an illustrated copy of *Hiawatha*, Margaret made some remark

about the 'antler things.' She was unable to give me the word deer till we came to a picture of one, when she at once supplied the word.

One of my students procured for me the vocabulary of a little boy, Ian, who at the end of the period of investigation (three weeks) was  $56\frac{1}{2}$  months old. This investigation was a very thorough and careful one. Much use was made of pictures and story-books, and special visits were paid to the Zoo and the Museum that any hidden store of words might be revealed.

At first Ian was unaware of what was going on, but seeing his Daddy always busy with pencil and paper he made inquiry, and received the answer, 'I am making up a list of words.' The child at once eagerly offered his help, and thereafter would frequently come and say, 'Here is a word, Daddy. Have you got this one?'

The proper names listed are chiefly geographical, or names of public characters such as Lloyd George and Lord Rhondda. Besides these, numerous names of people were known and were well remembered even when they were not in frequent use.

The following table shows the results obtained. It agrees very well with the reports of other observers:—

Number of Nouns . . . . .	1239
Number of Proper Nouns . . . . .	65
Number of Verbs . . . . .	384
Number of Adjectives . . . . .	253
Number of Pronouns . . . . .	32
Number of Adverbs . . . . .	67
Number of Prepositions . . . . .	30
Number of Conjunctions, Interjections, etc.	33
Total Number . . . . .	<u>2103</u>

In the *Pedagogical Seminary* (March 1915) may be found a study of an unusually precocious five-year-old child. This little girl had a vocabulary of 6837 words, of which

56·8 per cent. were nouns. This vocabulary includes 117 colour terms, 107 tactual terms, and 158 sound terms. If the reader will try writing down all the colour terms he can think of, he will be able to realise to some extent what such a vocabulary means.

As already implied, the number of published vocabularies is still too few and too select for satisfactory generalisation. The following table may, however, be of some use for reference :—

Age of Child.	Number of Cases.	Average of Vocabularies.	Range.
1 year	5	12·4 words	4-20 words.
2 years	16	454·6 „	36-1227 „
3 „	4	1608·5 „	1176-2282 „

**Word Meanings.**—Little children educate themselves. But they require help, for our present civilisation is too complex for even a genius child to conquer it for himself. We must, however, carefully follow their lead, for it is easy to stifle the delicate budding intelligence. One often meets children whose fathers have a hobby, astronomy, geology, what you will, and one often finds that the children regard the subject with extreme aversion, can ‘see nothing in it.’ And yet what a chance for these children had the father the teacher’s gift ! As it is, the father has probably tried to teach, that is, to interest the children in his hobby, and he has simply created an aversion. Too much is as bad as too little.

At the same time this does not mean, as people who ought to know better sometimes declare, that we are to leave little children to themselves in the matter of education. No ! Too little is as bad as too much. The consequences of underfeeding, in the mental as in the physical world, are possibly even more fatal than the consequences of overfeeding.

Little children, I said above, educate themselves. Big children, generally speaking, do *not* educate themselves.

And the reason is that they are the products either of over-feeding or underfeeding—often of both.

How then shall we find the safe middle course ?

I have indicated it above. We must follow the child's lead, or perhaps rather we must march abreast with him. The direction may be changed sometimes by the child, sometimes by the teacher, but let them beware of separating too far.

In the matter of word meanings we certainly for the most part allow the child to be the guide. He works so hard, and he goes so quickly that it takes us all our time to keep pace. There comes a time in the child's study of language when he pounces upon new words with joy ; he plays with them like a kitten with a ball ; he applies them in unexpected places ; he makes derivatives from them ; in fact one of the never-failing joys of a child's companionship is that he is the master, not the servant of words.

“ ‘ I don't know what you mean by glory,’ Alice said.

Humpty-Dumpty smiled contemptuously, ‘ Of course you don't—till I tell you. I meant “ there 's a nice knock-down argument for you.” ’

‘ But “ glory ” doesn't mean “ a nice knock-down argument,” ’ Alice objected.

‘ When *I* use a word,’ Humpty-Dumpty said in rather a scornful tone, ‘ it means just what I choose it to mean—neither more nor less.’

‘ The question is,’ said Alice, ‘ whether you *can* make words mean so many different things.’

‘ The question is,’ said Humpty-Dumpty, ‘ which is to be master—that 's all.’

Alice was too much puzzled to say anything, so after a minute Humpty-Dumpty began again. ‘ They've a temper, some of them—particularly verbs, they're the proudest—adjectives you can do anything with, but not verbs—however, *I* can manage the whole lot of them ! Impenetrability ! That 's what *I* say ! ’

'Would you tell me, please,' said Alice, 'what that means?'

'Now you talk like a reasonable child,' said Humpty-Dumpty, looking very much pleased. 'I meant by "impenetrability" that we've had enough of that subject, and it would be just as well if you'd mention what you mean to do next, as I suppose you don't mean to stop here all the rest of your life.'

'That's a great deal to make one word mean,' Alice said in a thoughtful tone.

'When I make a word do a lot of work like that,' said Humpty-Dumpty, 'I always pay it extra.'

I never asked Margaret what wages she pays her words, but I hope she pays them well, for they deserve it. Even of the verbs she is not afraid; as 'I standed by the river,' 'I hood behind the chair,' 'I gove him an apple,' 'I frowed the stone,' and innumerable other examples prove. Like animals, verbs must, I think, be gentle with little children. These liberties date from Margaret's third year. She has grown more respectful now, though she is by no means 'hauden doon.'

'Adjectives you can do anything with.' For long Margaret compelled *better* to enlist as a verb, and I must admit it did yeoman service.

'You better fix it so I won't fall off, bettern't you, father?' (Age 3 $\frac{1}{4}$ .)

'You'd better count.' 'Better I?' (Age 3 $\frac{3}{4}$ .)

Learning that the cloth for breakfast was not yet on, she demanded, 'Why won't the table be table clothed?'

With reference to shelling peas: 'I'm peeling them, and you're podding them.' She was breaking them across.

We were walking on the rocks at the seaside. 'I'm picking out the smoothies; are you? Only I need smoothers because I've bare feet.'

We were gathering shells. 'Have you found manyer than me?'

The child was wading in a rock pool. 'I'm collecting livings. I'm a catcher, I'm a fisher. I'm pretending I'm catching fish. There's a livey, not a deady.'

Yesterday's pudding reappeared. 'Is this the remainings of yesterday?'

We noticed a horse standing. 'The horsie's waiting for his Wō-man.' 'His what?' 'The man that says Wo! to him.'

'Do any she-people wear them?' 'Who?' 'She-people like you and me.'

Yet Margaret is on the whole a kind mistress to her regiment of words and does her best to humour their fancies.

'Do kittens like to eat mouses?' I suppose I unwarily assented. 'Isn't it mice they like to eat?'

When written down such questions look like a deliberate trap on the part of the child. Sometimes adults take them so, and may by doing so bring subsequent trouble on themselves. At first the questions are due to sudden recollection, and are always put in good faith.

Margaret, like many children, will pursue a meaning with untiring energy and great ingenuity. The other day 'barmaid' was mentioned. The child began to inquire of every one at table, 'Are you a barmaid?' Then, 'Is Cousin Frances a barmaid?' 'Cousin Flora?' 'Princess Mary?' It was only after this last failure that she adopted the superior method of connotation, and inquired, 'What is a barmaid?'

With all children relationships are attractive subjects of study. Margaret knows her father is my brother-in-law, and she was trying hard to find what this meant. 'Is he in law *all* the time—even when he's in London?'

'Auntie, are you a parent of mine?' 'Not in the strict sense of the word.' 'Is father?' 'Yes.' 'What are you?' 'A relative.' 'A relation?' 'Yes.' Margaret was six by this time and was writing a letter when these questions burst upon me.

I am reminded of Lady Glenconner's delightful tale :—

“ ‘ What is a wife ? ’ asked One after a thoughtful pause.

‘ I am wife to Daddy. ’ ‘ And is Daddy your wife ? ’

‘ No. Daddy is my husband. ’ ‘ Then who are you ? ’ ”

Once Margaret has enlisted a new word, she exercises it until she feels she has, as it were, broken it in.

Such a word was *brittle*. She used it one day with reference to oatcake. Then she tried it on the butter. But this was not allowed. Next morning she had more success with egg-shell. She kept on saying, ‘ I can hardly get my egg out ; this shell ’s so brittle. ’

We do not always realise how difficult our words are to children. One evening the five-year-old Margaret began asking her mother ‘ What ’s pity ? ’ over and over again. No answer seemed quite to satisfy her. When I went to say good-night she started again. I was puzzled, as she had used the word quite correctly the day before. ‘ What ’s pity *on* people ? ’ she asked. This gave promise of some light. ‘ Who said it to you ? ’ ‘ Nana says “ Have pity on me ” when I hug her. ’

**Training in the Use of Words.**—When a child goes to school more or less formal training in the use of words begins, to which we give the name of composition. But before this a great deal of informal training ought to be given which would lay a firm foundation for the later work at school. This training should be given entirely in the form of play or incidental and momentary instruction.

In describing the course that it might take I shall as usual take advantage of Margaret's ready co-operation.

From the point of view of language a little child is a foreigner in our country, and to him should be extended the courtesy which we extend to a foreigner. It is not necessary to shout at him, as many people think, but it is necessary to speak a little more slowly and distinctly than most of us are in the habit of doing. This is not, however,



as in the case of the foreigner who has learned the language by a different process, that the child may understand us ; it is that he may learn to articulate, so that he himself will be understood.

On the whole I think Margaret's immediate entourage speak with considerable distinctness. Yet I have several notes showing the difficulty the child had in picking up our words, and showing how misconceptions might arise therefrom.

Comment was made on the big head of a baby depicted in an advertisement. Some one said, ' He 's been overfed.' Margaret, then almost four, at once demanded, ' Has he a loaf of head ? '

A few months later the child noticed her mother at dinner time put something aside, and of course at once wanted to know what it was. ' A piece of gristle,' she was told. ' Is that the crissle that makes the butterfly ? ' she asked. A few days before she had made the acquaintance of a chrysalis, and had not got the sound quite right.

In the following spring I was walking with Margaret, and happened to refer to some cyclists I saw in the distance. ' Do you mean the giants ? ' she said in a puzzled tone. It was, I think, some months since she had had some fragments of the story of Ulysses.

About the same time she was found to be saying ' must of ' instead of ' must have ' in such phrases as ' he must have done it.' This pronunciation was for a while established as a habit. It is easy to see that such mispronunciations must greatly add to the difficulty of grammar.

My notes are not rich in these mistakes, yet all teachers know that they occur very frequently. In such material as hymns, for example, they often make havoc of the sense, and in a large class of children probably a very small percentage of these misunderstandings come to light. This is one reason why those who aspire to teach little ones should pay special attention to their own mode of speech.

Kindred errors may arise from the fact that words that sound the same may have very different meanings. It was, I think, in her fourth year that Margaret discovered this interesting fact, about the same time that she was beginning to take some interest in spelling.

We spoke about 'round O.' 'There are different kinds of O's,' said the child wisely; 'there's O the letter, and O that you say.'

One day she was looking at a picture. 'That is a Maypole,' said her mother. 'Is it a p'etence shop?' said the town-bred inquirer.

In her hearing I had used the words *lap* and also *collapse*. 'Lap sounds just like collapse. Does it spell with the same letters?'

Had the enthusiasts who belong to the Simplified Spelling Society approached Margaret at this time they would have found her a ready convert. We were talking about a word beginning with *kč*. 'It begins with *c*,' I said, '*c* often says *kč*.' 'Why does more than one letter say *kč*? The letters should all say the same thing, shouldn't they?' This is not so happily expressed as was usual with her, but the thought of the little rationalist is easily followed. The opportunity of the Society is, however, rapidly passing away, for if Margaret goes on as she has begun she will soon regard it as a tremendous joke that *through* says *thru*, and *cough* says *coff*; and not for the world will she interfere with the fun the letters have among themselves. And indeed there is something to be said for accepting their little vagaries in this spirit.

Idioms are of course a stumbling block to the child just as they are to the foreigner. Her uncle was one day playing with the three-year-old Margaret. 'Do you love your uncle,' he demanded, 'do you love your uncle like mad?' 'Does "mad" love his uncle?' was the non-committal reply.

Inversions of the sounds making up a word are very

common. Just the other day we were speaking of a family in which a number of deaths had occurred. After listening in silence for a little, Margaret, now six, turned to me and remarked, 'This is not a very pleasant *conservation*, is it, auntie ?'

She used *mentfer* for *ferment* when she was three, and I could give many similar examples, both from her speech and from that of other children.

## CHAPTER V

THE MOTHER TONGUE—(*continued*)

**Oral Composition.**—Oral composition of course begins with the first sentences. Elsewhere I have traced the development of this form of speech in Margaret's case. Here I shall take into account only more formal efforts. Many of these are 'read' from a book or 'written.' They tend to be produced so quickly that it is almost impossible to take them down with verbal accuracy. Generally the child cannot repeat them. They come welling up from the 'unconscious mind.'

It was just before she was three that Margaret began to read aloud from a picture. The only specimen I have is 'a nice little girl looking at some poppies.' The effort was of course spontaneous, not in answer to a question.

The next record I have belongs to age three and a half: 'There was a little girl, and she had a book, and when she dropped it, it broke.' A more interesting one is a tale of a zebra who wouldn't stand still, and when he wriggled he always got whooping-cough, and he got *nothing* to make him better, and he coughed and coughed every day. The teller was having her hair brushed when this tale was told; the zebra's reprehensible wriggling is thus accounted for. The 'whooping-cough' is probably derived from some casual talk about the dangers of little children going to school.

Here are two 'letters' written by Margaret (thirty-eight months) and read aloud to us:—

'Once I were getting a nice picnic all on the nice hills. The hills were very, very nice. The hills were getting all clouded and clouded and clouded.'

On the second occasion I had wished her to write to

her uncle, but she insisted on writing to 'a soldier in France':—

'Are you well, Dear Soldier? How are you keeping? Dear Soldier, how were you well? If you are sick, you'll have to go to bed. How is the Soldier in France? How are you keeping? If you're keeping well, you mustn't go to bed. Are you getting well in France?'

The 'letters' of this period, especially if dictated, were full of repetitions and much dominated by the environment. Such letters, however, belong to a different category, being for the most part products of the conscious mind.

At the age of four Margaret read the following story from an accommodating brick which represented a picture paper. I have only a fragment of it:—

'...,' said the Bird to the Aeroplane, 'I am sorry I can't. I am too busy just now. I am getting worms for my young ones, and teaching them to sing.'

When Margaret was about four and a half I told her the story of the cat and the rat and the little red hen. 'Who'll lay the cloth?' said the little red hen. 'I won't,' said the cat. 'I won't,' said the rat. 'Then I must do it myself,' said the little red hen; and so on till it comes to 'Who'll eat the breakfast?' 'I will,' said the cat. 'I will,' said the rat. 'You shan't either of you have any,' said the little red hen.

Margaret was rather sad they didn't all have breakfast; and I had to explain the little red hen's disobliging conduct by pointing out that the others had refused to do any work.

'Then I'll write a story,' said she. So she 'wrote' and 'read' the following:—

'Once upon a time there was a little boy and a little cat and a little red hen. They all said, "We must go out for a walk. Who will lay the breffast?" "Me," said the cat. "Me," said the rat. "Me," said the little red hen. They all had to have some breffast for they all did some work.'

A minute or two later she bettered this by a story in

which there were many more characters : ‘ Two little girls to be one another’s sisters, and two little boys to be one another’s brothers, and the little girls were six and the little boys were five, and so they were one another’s twins.’ Inspiration did not fail, for then there came another version : ‘ Once upon a time there was a little boy and a little cat and a little rat and two little boys and two little kittens and two grown-up cats . . . and they all said, “ Well, I think we ’ll go and get the breffast ready. Who ’ll do that, I wonder ? ” “ I will,” said the little boy. “ I hope the little boy will fry the bacon best. What ’ll you do, two little girls ? ” “ I ’ll put the rolls on the table.” “ And I ’ll put the rolls on the table.” You see there were two plates of rolls, brown rolls and white rolls . . . and pokers and geeters.’ (What are they ?) ‘ Sort of pokers, nice pokers made of sugar and spice—and writing——’

This sudden divergence into nonsense I have several times noticed in Margaret. I don’t know if it is a common phenomenon in childhood. It is as if the easy automatic flow stopped, and the conscious self feeling the jerk snatches at something in the environment in the vain effort to cover up the confusion.

These examples seem to me to suggest that if one had been able to present a series of suitable models to the child, she might fairly soon have made quite nice little original stories. In every sphere the presentation of a good model at the right moment has a wonderful effect. It is at such times that one feels with Kate Douglas Wiggin that there is no talent that the Kindergarten teacher can afford to be without. Yet the model presented must not be such that the child feels it to be altogether out of his reach ; therefore we need not despair, though we have neither the art of Raphael nor the music of St. Cecilia.

In some of the stories the age of the author results in a pleasing freshness of view. Here is a fragment of a five-year-old one read from a book in which there was a picture

of a crab: ' . . . and pinched my fingers off, but I seccotined them on with great care and a little glue—a little glue mixed in.'

Two or three days after this, when I went to say good-night, I heard Margaret, as she lay in bed, say: 'Little Betty's father is in France. When he comes home he will play with her on the sand, and in the wood he will look for hedgehogs and squirrels.' When I entered, the child said she would say a nice song to me. There was considerable effort to get the beginning again, during which time she indicated I was not to attend. This was very interesting. It meant that when I made her self-conscious by looking at her expectantly she could not start the mechanism. When she did secure the start she repeated the sentences verbatim. I said, 'That is more like a story than a song.' She replied, 'I will sing it to you when I get tunes in my voice.'

In the matter of memory most of us are aware of the danger of interfering with the machine. In this region I have often noticed the bad effect that conscious effort has on Margaret. I used to think she did not learn poetry easily. One day I was amazed to hear from her mother that in the morning in bed she had repeated three eight-line verses that I had read to her two or three times a few evenings before. This was the spontaneous automatic memory which would, I am convinced, save us so much trouble if only we could learn its secret.

Half a year later oral composition took the following form: 'Now make one about the daffodils. On the banks of the rippling river the daffodils grow, and in the trees the robins sing. The robins sit and sing. They sit by their mother all day long. They sing, Come, my merry sweetheart, come along, we must go home; we shall catch the train at ten o'clock.'

This last statement was true of the speaker, as she was returning to her home that morning. The story was made

when she was in a room by herself preparing for the journey. It shows, I think, the influence of the 'pretty sentence' game to which I shall refer later.

Here is a delightfully dramatic story by a little boy friend of mine, four years of age :—

'Once there was a little tree just as big as a finger. And a little boy came and pulled it up by the roots. And the father smacked the little boy and he died. And an angel did not come down from heaven and fetch the little boy, but he went up in a balloon.'

In February 1919 I received three stories which Margaret had dictated to her mother: 'The Story of the Four Bunnies that are Black and White,' 'The Story of the Child and Squirrel Brownie,' and a third without a title, which I quote :—

'In the spring-time the butterflies flutter about to tell the little children that they can run about and play now, for the spring-time has come. And the flowers do grow, and the merry little lambkins run about and play, and the merry little birdies sing, and the little daisies' heads are peeping up from below the dark ground, and the buttercups do peep too.

'But in the winter all the little things go to sleep, and don't rise till the spring-time comes; and everything is very quiet.'

**Pretty Sentences.**—This is an amusement which Margaret and I have invented for ourselves. It started in this way. Soon after she had turned five, we happened to spend a month together at the seaside. We were sitting on the shore one day, when she said, 'Wouldn't you like to take a photograph of that rippling water with the sun on it?' Next morning we happened to begin to talk of pretty words and pretty sentences. Among other things I said her sentence of the day before was pretty. She was much gratified, and kept referring to it. Indeed I almost re-



gretted my act, because I feared she was going to be held down to that level.

Another effort of that morning was 'Low the bushes grow,' which she developed into 'Low the bushes grow with a few tall branches.' The inspiration was derived direct from the garden where rose-bushes were visible growing in just that way. Another attempt was 'Lots of poppies grow in the green cornfields.'

Next day she recurred to the game, and I have recorded this example : 'The little birds learn to fly when their mothers tell them. Over the sea the little birds fly.'

Two days later : 'Down on the grass near by the sea, the grasses and sea-pinks do grow.'

This was a period when Margaret enjoyed a good deal of play with other children in the garden and on the shore. Moreover, I was trying to obtain a vocabulary, so we could not give much time to our 'pretty sentences.' Yet I think the composition of them helped the child to attain to considerable appreciation of words.

Next summer when we were in the Highlands the 'pretty sentence' game once more came to the front. Some of the sentences took on more markedly the rhythmic quality that appeared to some extent before :—

'Green grow the needles on the tall Scotch fir.'

'The larches grow so tall and straight,  
They hold themselves so straight and tall.'

The delicate personification combined with the inverted repetition in the last line is, I think, very effective.

Another line with similar personification—

'The ferns reach out and tickle my legs,'

brings vividly to view the bare legs of six years old.

A few days later the sentences showed a tendency to grow into paragraphs. In so doing they were apt to lose

the terse character which formed one of the merits of the less ambitious efforts. Here is one such paragraph :—

‘The sunlight glimpses on the fields and makes them look so red and yellow. The sunlight says, “Why are you not dug up into allotments, to give us potatoes and other things to eat?” Answers the field up into the sky to the sun, “I’m glad I’m not dug up, for I would not like to be dug up; for I’d rather remain as I am, and show my greens and reds. Oh, sun, go on glimpsing at me making me look so reddish yellow from a distance.”’

All the ‘pretty sentences’ were the direct product of the environment. There was another about a butterfly alighting on a scabious ‘which bent its head under the weight of the little thing.’ I reintroduced the game, to take the place of stories which I had been telling her on our walks, and which she had acted with considerable over-excitement.

In this game it is a difficult problem to decide how much depends on me, that is, on the teacher. The examples I have given seem to me to belong entirely to Margaret. But just as the child stimulated me, there is no doubt I must have stimulated her. I certainly felt that in the hands of a competent person the game had very great possibilities.

In such games as this it is our practice, so to speak, to play turn about, and sometimes we both grow so eager over our own compositions that the casual ‘That’s very nice’ we award to the other is very evidently a mere tribute to politeness. This is, I think, well; Margaret had given me a lesson last summer about the effect of over-cordial praise. In attempting to teach a child composition, one does not wish to make her either self-conscious or self-satisfied.

The incident that brought home to me most clearly the possibilities of the game was the following. In one of my sentences I said something about the ‘long fingers of autumn’; a day or so later Margaret adopted this phrase for one of her sentences.

I had begun to borrow phrases from the poets. I remembered 'Season of mists and mellow fruitfulness' which was not laid hold of, and a few others; and had I been able to develop the work, I should certainly have made a point of leading Margaret through this gate to those who have made nature vocal for us. I feel sure that any one who could do so with a responsive child would receive his own back with interest. It would have to be delicately done, for originality is a tender plant and requires air as well as sustenance.

The work would be well worth doing. What a thing it would be if we could feel that our children when they leave school could find in their inmost being an echo of the words of Browning's fifteen-year-old hero as he stretches his arms to welcome the end of that life which he has lived so fully :—

'I can give news of earth to all the dead  
Who ask me—last year's sunsets and great stars  
That had a right to come first and see ebb  
The crimson wave that drifts the sun away.  
Those crescent moons with notched and burning rims  
That strengthened into sharp fire, and there stood  
Impatient of the azure; and that day  
In March a double rainbow stopped the storm—  
May's warm slow yellow moonlit summer nights—  
Gone are they, but I have them in my soul.'

Let it not be said that I aspire too high. Many people have found that in this region of nature poetry the child is at home.

In the delightful *Letters of a Schoolma'am* I find the following account of a school walk given by a friend of the Schoolma'am who had the privilege of one day accompanying the party :—

'One little girl was much excited to see so many cows eating with such determination. "Look, look," she cried, quoting Wordsworth's *Lines Written in March*, "there

are forty feeding like one ! ” Later, a boy, seeing the homing sheep and the threatening sky, said to Judith, “ Do you notice, miss,

Sheep are gone to fold, birds to their nest ;  
And coal-black clouds that threaten heaven’s light  
Do summon us to part, and bid good night ? ”

I could hardly believe my ears, the words were said clearly with a full intonation, but how should a boy of eleven have studied *Venus and Adonis* ? When the boy was out of earshot Judith told me that she picked out lines descriptive of country scenes from any source, often using them as short lessons in memory and spelling. She would write such a passage on the blackboard, and the children would learn it and write it from memory. She said the children’s appreciation of poetry is often great. Her plan is to teach a good deal of poetry and let each child keep up such as he himself likes.’<sup>1</sup>

In one of the English Association pamphlets—*Poetry and the Child*—Mr. J. Dover Wilson has well brought out the relationship between the spirit of the poet and the spirit of the child. ‘ Upon this planet,’ he says, ‘ dwell two strange races of people. The first is a tribe small of stature and delicate of limb, the members of which make their way into civilised society one by one, arriving among us entirely unable to look after themselves and quite ignorant of our language. Were it not that we take pity on their helplessness, they would perish miserably—thousands, indeed, do so every year—but the majority are welcomed to our houses, fed and clothed by us, and after a little while they learn our speech and something of our habits. Yet for the brief space of their existence—a matter of about a dozen years—they remain as strangers among us. They tolerate our patronage and submit to

<sup>1</sup> *Letters of a Schoolma’am*, ed. by A. B. De Bary. (J. M. Dent and Sons.)

our correction ; they even court our admiration and our love. But they take little interest in the things we prize most ; their ideals are not our ideals, and they seem to have acquired, in the country from which they came, a standard of values which can with difficulty be adjusted to the facts of this rough-and-tumble world.'

This strange race is, of course, the children, and every one will recognise how apt the description is. The other strange race consists of those who retain all through life the power of looking at the things of this world with the eyes of a child. These are the poets.

It follows, then, that the child and the poet are akin, and that those who write notes to Shakespeare—or at least those who make children learn notes to Shakespeare—are obscurantists ; they are intervening between people who are in natural communion with one another, and who are only cumbered and driven apart by such clumsy assistance.

**Figures of Speech.**—Naturally if every child is a poet, he will know much of the Figures of Speech before he knows their names. Inversion, Repetition, Analogy, Metaphor, Personification, Simile, Hyperbole, Contrast are perhaps the Figures most akin to his genius.

It is part of a teacher's work to make implicit knowledge explicit, so although I knew Margaret was really on familiar terms with all the Figures I have mentioned, I thought I might as well introduce some of them to her attention. She is six years old now, so it is high time she knew something of the 'flowers of rhetoric.'

So one day as we walked along our homeward way, I suggested that we should play Similes instead of 'pretty sentences,' and I illustrated by the first that came to hand, perhaps, 'The road stretches before us like a winding ribbon.' We continued till we reached home ; we were not far away. A day or two later Margaret said, probably at the same spot on the same road—associations like this

were very powerful in her—‘Let’s do things looking like things—what do you call it?’

So we played again. We made no masterpieces. The only example I have noted is ‘The trees are like great green feather beds,’ which I considered both prosaic and untrue. We played once or twice again, but I seem to have kept no note of the result. The child, I remember, was anxious to compare the line of trees showing sparsely along a mountain ridge to hairs on a man’s face, but I was not very appreciative.

She made a simile once in the ordinary course of conversation. I pointed this out, and she was greatly interested to find they were things you made by accident. Afterwards if I made one, she was sure to inquire eagerly whether it was done intentionally or not.

It may be thought these results were disappointing. Not at all. The seed has been sown. It is for the future to show what sort of plant will spring from it. I do not expect to see Margaret now for three months or so. Then if occasion arises I shall inspect and perhaps fertilise the seedling.

Personification is perhaps the child’s favourite Figure. It pervades his speech. Whether it is allied to Animism I do not know. In Margaret’s case I incline to think it is purely poetic. If not, one would expect to find it specially active with regard to dolls.

Now Margaret does not seem to cherish any illusions with respect to the life of her dolls. Soon after she was four, she came to me with a doll and this conundrum: ‘Dollies can’t real-talk, can they, not unless you help them?’ She went on to say that her doll couldn’t talk with a p’etence mouth. I said his mouth was real as far as it went. She insisted it was p’etence as far as it went. Finally she arrived at the conclusion that a dollie wasn’t a ‘real *person*,’ was a ‘p’etence person.’

Yet her personifications are innumerable. When she

was about three and a quarter, she was riding in her mail-cart and holding a somewhat heavy parcel on her lap by a loop of string. I noticed her getting into difficulties as it slid off her knee. She flushed with her efforts and complained, 'It's trying to let go of my little finger.' When just four she said of the green husk of a strawberry, 'Is that its little petticoat ?'

A certain picturesqueness of phrase is common, as when passing a cat, Margaret exclaimed, 'What a dear little pussy ! just like Sandy, only it's done in brown and black, and Sandy's done in yellow and white.'

How great is the appreciation of contrast shown in this Lucretian sentiment of a five-year-old boy: 'How nice it would be if we lived always in hot baths, and had our dinner there, and had maids who lived in cold rooms and brought us our meals in the bath on tables that stood out of the water.'<sup>1</sup>

**Literature.**—Absorption is necessary as well as expression, and in connection with the teaching of the mother tongue one naturally begins to ask oneself what literature is most suited to the child ; and when and how should he begin to make acquaintance with the lords of language.

When should one begin the study of Shakespeare is a question sometimes raised.

It is a question to which I should like to know the answer, so I thought I would put it to Margaret.

I selected the *Midsummer Night's Dream* as perhaps the most appropriate test play, and through the medium of Rackham's illustrations I introduced it to her when she was three and a half. Once or twice I read her Titania's lullaby, which possessed, so far as I saw, no special attraction for her ; and I gave her fragments of the story so far as was necessary to elucidate the pictures. Puck, I fear,

<sup>1</sup> 'Suave, mari magno, turbantibus aequora ventis,  
E terra magnum alterius spectare laborem.'

I represented in a rather more favourable light than he altogether deserves. One could not deny his naughtiness, but at the same time I emphasised his helpfulness to those that Hobgoblin called him and sweet Puck. When the child rendered help in some piece of domestic work, it became a joy to pretend that Puck did it. One charming picture of the mischievous elf she used to apostrophise with gleeful tones. 'Oh! Puck! You naughty boy, you naughty, *naughty* boy!'

Still, on the whole, I thought the time had not yet come.

Some three months later, I visited her at her own home. I asked her if she remembered Puck.

'Yes, he was a rascal.'

'What did he do?'

'Didn't he put the donkey's head on the man? What did he do with the man's own head?'

I reminded her of one or two other episodes, and I may have read a line or two from the scene between Bottom and the fairies.

Two or three days later she spontaneously remarked, 'One day when I was in bed at twelve o'clock' (her noon-day rest), 'I read about Bottom and all the little babies who said, *Ready*. I said *Ready*.'

Puck continued to be one of Margaret's friends, but we did little to make his better acquaintance till she was six years old. Then one day she asked for the whole story with Puck in it. I acted with her most of the first three scenes, skipping a little in the longer speeches, and giving her the shorter ones to say.

It is seldom easy to say how much Margaret understands, but her mother told me that 'squeezing the juice' and a few more references of the kind came into her morning fantasy, which unfortunately I did not hear. And it was the same evening that I had a visit from the 'mischievous elf.'



Some ten days later some phrases from the scenes read came up when the child was working with the Montessori material. (See p. 96.) On the afternoon of that day we read a good deal more. She was interested and did not want to stop, but I thought it fatiguing for her and broke off. We read in the garden. As Oberon and as Puck we crouched on the bank and chuckled over the foolish ways of the distracted lovers. 'Lord! what fools these mortals be!' remained in the child's memory, so that later we had to point out to her that it was not an ejaculation which might with impunity be brought out in a mixed company.

At our next reading we finished the play. After that we spoke of acting it properly some other time with a larger company. I suggested that grandpapa should be Theseus. 'No, he had better be Egeus, because he was an old sort of man.' So we agreed that father should be Theseus. At that moment our good landlady entered. Margaret turned genially to her: 'And if we come here again for our holiday, Miss Macbeth, you could be Hippolyta, father's queen—Theseus's queen.'

With an absorbent and suggestible child like Margaret it is often difficult to say whether she is ripe for a certain piece of literature or not. Often at the moment of reading I can get no light at all.

It is the custom in many schools nowadays to demand expression from the children immediately after a literature lesson. Certainly if the mode of expression demanded were acting, this custom would accord with Margaret's nature. At one time she could scarcely wait for me to finish a story, before she would eagerly demand to act it. Very probably I might obtain expression by drawing in the same speedy way, but I do not happen to have tried. One knows that many children respond delightedly to the suggestion that they should draw what has just been read to them. When Margaret gives me no clue to her mental

response, I have two methods of finding out whether she is or is not yet ready for what I have offered. A day or two later she may spontaneously utter words directed by the material I have given her, or she may ask to have the story or poem once more.

Sometimes an apposite reference or quotation proves that the matter has gone home. When Margaret was just four I tried her with *Alice through the Looking-Glass*. One day as we were walking together I twined my arm in hers, and said, 'Here we go, arm in arm.' 'Like two castles,' she returned with delight.

The *Just-So Stories* are most quotable. The child was not five when she suddenly said to me at breakfast, 'What have you at your end of the table, brother?' Not very long ago she wished to take my hand, which I refused. 'You should not be cruel,' she said reproachfully, 'even to a little girl.'

From babyhood Margaret has been very reluctant to commit herself when she was not sure. Hence we very seldom obtain from her evidence of those childish misunderstandings which to our sophisticated minds are so amusing. Yet undoubtedly, like other children, she has many ideas which require readjustment. When she was five, as we walked past a cornfield, some one sang a line or two of the hymn,

'The fields are all white, and the reapers are few;  
We children are willing, but what can we do  
To work for our Lord in His harvest?'

Soon after that the child volunteered to sing me a song of her own. Here are the words: 'The fields are all white and the reapers do grow in the cornfield. I pluck them every morning, and they have sprung up again by the next morning.' I listened appreciatively, but made no comment on her use of the word reapers,

A couple of days later I asked for her song about the

fields ; she gave me first, ‘ The fields are all white and the reapers are few, as I go marching up the road ; when I come away to a gate, I go through it to Shell Bay ’ ; then as a repetition, ‘ The fields are all wet, and the wetness is sparkling—sparkling at me like little red diamonds. As I go marching down the street, I see no gate, so I go marching away down the street to Port Seton.’

In the interval Margaret may have heard the correct wording again, or some doubt as to her former interpretation may have entered her mind. The following day when she was walking with her mother she sang to her ‘ the fields song ’ ; after which I overheard her remarking in a tone of gentle explanation, ‘ Reapers don’t grow, Mamma, you know.’ I was not able to ascertain how her knowledge had developed.

It is, I am sure, better, as a general rule of method, to take no notice of mistakes like those when they occur, but unobtrusively to put the child in the way of rectifying them. Unfortunately many adults have little command of their countenances, and they are apt to laugh, and to comment openly on the ridiculous mistake. Here as elsewhere we should treat the child with the politeness and sympathy we would show a foreigner ; if any one does push the mistake into the foreground, we should gloss it over, and do our best to set the little speaker at ease again.

Our use of words of course often misleads children. I asked Margaret (age 5½) to give me a sentence containing the three words, ‘ London,’ ‘ fortune,’ ‘ stream.’ After a moment’s thought she replied, ‘ Once upon a time I was going to London, and when I was in the train I saw a stream a-flowing, and my mother said I saw that stream because I still had my fortune.’ This looked as if the task were too difficult and the child had drifted into nonsense. However I inquired, ‘ What *is* your fortune ? ’ ‘ My face,’ she returned promptly. All was now clear. The famous line, “ My face is my fortune, sir,” she said, ‘ was the only connection in

which my little companion had ever met the word fortune.

When she was five and three-quarters I thought it might be time for the *Jungle Books*. I took first the story of Kotick, the white seal. She listened with great intentness, but several times asked Why ? in such a way as to suggest she was not really taking much in.

I thought, 'The time is not yet.'

A day or two later when she was alone in a room, I heard her voice. I listened and heard something like this, "Who are you ?" "I'm Kotick, Clameater." "You mustn't call me Clameater, for I know you do it just to tease me. If you do it again, I'll—I'll pull off all your fur and eat you up." "Well, I must call you Clameater, for I don't know your real name." "My real name is Walrus." "

This was distinctly encouraging. I had no idea the child had realised even so much of the story. So I tried Toomai of the Elephants. She listened with great attention, but again my reflection was, 'Not yet ready.' Nevertheless twice later she spontaneously asked for it again.

Very often when Margaret is with me I read poems to her for half an hour or so before she goes to bed. She enjoys this, but in accordance with her usual objectionable caution she keeps her thoughts for the most part to herself. Very probably at the moment she has none to express ; for thought needs time to ripen. When I allow myself to be so far led away by an unscientific impatience as to 'fish,' I am treated as I deserve, and get nothing but a banal 'That 's very nice,' or 'I like it.'

I have, however, a few observations. Her own compositions to my ear indicate a certain sensitivity to sound. When she was five and a half, her mother told me that she liked Boadicea, and that she thought it was the sound that appealed to her. Considering her strong objection to killing, I do not think it could be anything else.

Yet when she was five and three-quarters I noted that

the rhyme and structure of a verse did not seem to impress her much, as in repetition she would omit lines or shorten them without noticing anything wrong.

This summer I tried *The Lady of Shalott*, but its sound could not compensate for its sadness ; so she did not wish it finished nor did she wish it again. I did read it or parts of it once or twice again ostensibly to others, but her attitude was unchanged. I also read Tennyson's *Daisy*. I thought it might interest her because it was written in Edinburgh where she has often been. She gave one of her rare comments towards the end of the poem, 'I think he must be thinking of little children.' She repeated this later, and I said, 'Why?' 'Because it's such a nice singing sort of thing.'

For more regular reading I used *The Golden Staircase* as prepared for the four, five, and six year old. *The Jumblies* and Eugene Field's charming *Wynten, Blynten, and Nod* soon became first favourites. She was sensitive to lullabies, and one evening objected to my reading one on the ground that it was not time for her to go to sleep. Once or twice she began to say the poems along with me, but on the whole preferred to listen quietly. As soon as one was finished she would demand another, never apparently wishing to 'pass any remarks.'

Margaret's type of imagination has considerable influence on her literary preferences. She identifies herself so thoroughly with the characters in the story that her emotions often overcome her. Some children, I believe, enjoy this, and with tear-bedewed eyes will beg a story sadder still. Margaret has not yet discovered the joy which for those others is in the heart of imagined sorrow.

When she was four and a half I read her part of *Robinson Crusoe*, after which we acted it. Robinson, it will be remembered, spent a long time making a boat, and then found it was so heavy that he was unable to launch it. We used a brick for the boat, and I really held it down, while

apparently we both struggled with all our might to move it. I, as Robinson, was naturally sad, but I did not make my feelings very apparent, for I knew the danger. Nevertheless Margaret warned me I was making her cry. I hurried on as fast as I could to the plan of making the next boat. Nevertheless the child's mouth opened, big tears formed, and came dropping down. I thought there was going to be a real howl, but I managed to make her smile ; we dried up the tears, and went on with the story.

By and by she remarked, ' Isn't it strange that p'tend should make me really cry ? ' It is not only adults who can psychologise !

Later when we read about the earthquake, Margaret thought we 'd better not play that part, as she did not want to be frightened. Again when Robinson's boat was caught in the current, she suddenly snatched it (a bit of wax) off the table in case it should be swept out to sea.

The following day she declined altogether to play Robinson Crusoe lest her feelings should again be rent.

This tearful reaction still occurs. Not long ago her father read her a story in which a child met with an accident. Some time later she was doing something with me when she remarked, ' I was nearly crying about the little boy.' This is a mild way to put it, as she had wept silently, covering her face with her hands.

In the evening I wished her to ask for the conclusion of the story instead of playing cat, but she would not. Just as she was leaving the room after saying good-night, she said somewhat apologetically, ' Auntie, I know I would have been nearly crying again about the little boy.'

## CHAPTER VI

## A MONTESSORI EXPERIMENT

IN the latter half of 1919 I spent about six weeks with Margaret, then six years and two months. I was very anxious to test the Montessori method of teaching the mother tongue, and I thought this would be a good opportunity. In Margaret as usual I found a delightful collaborator, and the results were of considerable psychological interest.

I worked under certain disadvantages. I wished particularly to test the method of teaching grammar; for this purpose my little subject ought to have been able to read and write perfectly. Margaret could read, but not with fluency. She could print a little, but she could not write. I was trying some experiments on the teaching of writing at the same time, and the copy-book proved a strong counter-attraction to the Montessori 'games.'

Again, I had no other children available, so that there was no stimulus from companionship—a stimulus which I think would have proved very valuable.

Another disadvantage was that I had to prepare my own material rather hurriedly with no facilities for obtaining just what I wished, and therefore I did not succeed in giving it the beauty and daintiness on which Dr. Montessori rightly lays such stress.

The general principles underlying the invention and use of the Montessori material for teaching grammar are, I think, as follows :—

1. The material must be such that the child works impelled not by us but by his own inner needs, till he has

won from it the general truth, or principle, or classification, or method of work, which it is intended to teach him. This principle forbids us to *make* the child work. Unless we have spontaneity and joy, we have not the Montessori method.

2. The material is calculated to render explicit knowledge which is implicit in the child (*e.g.* regular and irregular plurals, agreement of verb with subject, etc.).

3. Differences not yet apparent to the pupil are emphasised by being associated with apparent differences, and so come to be recognised by him at first implicitly without full consciousness; later explicitly with full consciousness. Thus the child has never noticed or thought of the differences in words indicated by the term 'parts of speech.' These differences are emphasised for him by the nouns, adjectives, etc., all being printed on cards of a distinctive colour. All the adjectives for instance may be on blue cards. To the child these cards belong together because they are blue; but he gradually comes to perceive that they also belong together for a more subtle reason; and then he begins to realise the meaning of the term adjective. This simple device enables the child to keep his own material tidy, not to mix his nouns and verbs, etc.

The character training which is given by the respect with which the material is treated is not to be despised.

4. All mental work is accompanied by simple handwork (manipulating the cards, etc.), which serves three purposes: (a) it relieves the mental strain, (b) it provides the rest period so important for the fixation of the impression, (c) it focusses the child's attention.

Because my little subject was not quite at the right stage for the grammar study I provided also some of the less advanced material which she was equally free to select. The promise of a new game or a new colour of card always proved attractive.



The first exercise I tried was a Prefix exercise.<sup>1</sup> On a piece of paper I printed the following :—

Place : displace, replace, misplace.

Cover : uncover, discover, recover.

Close : disclose, reclose.

Arrange : rearrange, disarrange.

I had one set of letters such as is commonly used in playing spelling games, and I prepared another set. I showed the child how she must build up the words out of those two alphabets, always making the root word of the one and the prefix of the other. I illustrated the meaning of the different words. In this part of the lesson she showed great interest and pleasure, readily using the words herself. She worked through *place* and its derivatives ; she then did the meanings of the derivatives of *cover* ; she built up *cover* out of its alphabet, and then stopped. In spite of her interest in the meanings of the words, the activity on the whole did not attract her, and I felt somewhat disappointed.

A second paper which I prepared for a similar exercise was the following :—

War : warrior, war-ship, war-horse, war-song.

Play : player, playful, playmate.

Fish : fishing, fisherman, fishmonger.

Wood : wooden, woody.

Two days later my pupil did a little work with this, taking *play* as her word. Her first *play* I think she built correctly, but when a little later I looked to see how she was getting on, I found she had four times arranged the letters thus, P A L Y ; yet she kept saying ‘ p, l, ’ to herself all the time, and never noticed the mistake, on which I of course made no comment. This is an instance of that mind-blindness of which I was to have even more striking examples later.

<sup>1</sup> For all the exercises see *The Advanced Montessori Method*, vol. ii.

Next I prepared four slips of paper on which were printed *a table, some beads, an orange, the paper*. I also prepared four white cards on which were printed the four nouns, and four cards with a blue line on them on which were printed the four adjectives. I explained to Margaret that she was to read the phrases and then build them up out of the cards, which were arranged in two little bundles, cards giving the names of the parts of speech being on the top. Here my material suffered in comparison with that of Dr. Montessori, who provides delightful little boxes with special labelled compartments for the different sets of cards and slips.

Margaret made two correct arrangements; she then did *a paper*, saying 'a table' all the while, and *the table* without ever noticing the mistake. For a special reason I told her this time that there was something wrong, and she found the mistake with some difficulty. She had been hurrying in order to exhibit her work to her father, but she did not wish to do the exercise a second time even to let her mother see. For at least a few seconds while she was doing it, her attention was thoroughly caught and her interest aroused.

Next day she played the game again with considerable concentration. She was very anxious for every one to come and see it. This desire to exhibit should die out, and to a considerable extent did die out even in the short course of my experiments. During these first days the child was probably over-excited by a long journey and the wealth of new stimuli that were being brought to bear upon her. Throughout the period the Montessori work had, I think, a soothing and steadying effect on her.

I now prepared some longer phrases with words to correspond: *the flat surface, the curved surface; the blue bead, the yellow bead; the long pencil, the short pencil*. The purpose of these phrases is to bring out the function of the adjective. The adjective particularises the thing. Here it causes us to think of a different thing altogether. I

explained to Margaret that she was to read the long slip, fetch the thing indicated, and then build up its name from the words. I gave her first *the flat surface* and *the curved surface*. She took great pleasure in feeling various surfaces and deciding whether they were flat or curved. As her example of a curved surface she ingeniously seized on a publisher's catalogue which had come to me by post, and which having been folded presented quite a good example of a curved surface. This sufficed for the morning's work.

About this time a cousin arrived to spend some time with us, and naturally Margaret paid great attention to the newcomer. In the morning, after play and talk with her, she said, 'I must soon begin my Montessori games.' That morning she did all the phrases given above, but not very correctly and with considerable wavering of the attention. On this inattention I never commented. The child was perfectly free to stop when she chose.

So far my experiments had not proved very successful. The word-building games had not yet attracted the child at all. The noun-and-adjective game was better, but I could not feel it had developed much attractiveness in itself apart from my interest in the work.

I went on to a Masculine and Feminine game. On sixteen white slips I printed the words, *bull, brother, father, he-goat, husband, king, man, son*, and their corresponding feminines. These were arranged in two separate bundles and labelled *masculine* and *feminine*. I read the masculine names with the child, and we arranged them in column on the table in alphabetical order. I then gave her the feminines and told her to place each opposite the word to which it belonged. I gave her any help she required in reading. She made one or two false suggestions, as that *daughter* might belong to *brother*. In the end she arranged them all correctly, having taken 7 minutes 24 seconds to do so. She did not wish to do it again, but walked about the room humming, counting her steps, etc.

I thought this might be the phenomenon of false fatigue which Dr. Montessori has discovered. She says that a period of restlessness develops after the first period of work ; but after that the children settle down, and do their best work. I did not succeed in establishing the occurrence of the phenomenon with any certainty in Margaret's case, but of course the circumstances were not favourable for its development, as the experiments were carried on just when opportunity offered, and being in the country we naturally spent as much time as possible out of doors.

On this particular day we seem to have had a good deal of time, for after an interval I was able to try a Singular and Plural game on similar lines. The nouns selected were *child, foot, hand, leg, nest, nose, tooth, wolf*. The method was the same as that described above. I printed the words *one* and *two* before the nouns on the singular and plural cards respectively.

Having arranged the singular nouns in column, the child would take a plural card, read it, then go over the singular words from the beginning till she came to the right one. For example she read *two teeth* ; she then began at the top of the column of singulars, read *one child, one foot, one hand*, then looked back to the card she was holding, read *two tēth*, corrected this to *two teeth*, then returned to the fourth singular card, and studied all the way down the list till she came to *one tooth*. She took 5 minutes 20 seconds to the whole exercise.

On the following day Margaret played the Masculine and Feminine game again, and also a simpler game used by Dr. Montessori for younger children. I printed on separate slips of paper the words *arm-chair, basket, bell, biscuit-box, carpet, chair, chess-box, clock, curtain, coal-box, cushion, door, floor, flower-pot, hinge, picture, saucer, sideboard, sofa, stool, table, tray, wall, window*. These slips the child had to read and place on the object named. When she was unable to

read the word by herself, I gave her the pronunciation of the letter or letters that caused the difficulty. She completed this exercise after  $21\frac{1}{2}$  minutes' steady work.

The following day I presented a new Masculine and Feminine game, making use of the following words, *boy, brother-in-law, Duke, Emperor, lion, nephew, uncle, workman*. In doing the word game the day before she had spontaneously developed the habit of going away into a corner of the room to study the word. 'I don't know whether this was an assertion of independence or not. I had been careful never to offer my assistance too soon. Indeed I made a point of attending to my own writing, and only looked now and then to see how the little student was progressing. On this occasion there were some interesting developments. Having read and arranged the first five masculines, she remarked : 'They're all man-things.' 'Because they're masculine,' I replied. 'What is masculine ?' 'Just a man-thing.'

As she continued her work of arranging, I heard the following reflections :—

'What should I put to *uncle*, do you think ?'

'Is it *workman* ? What should I put to workman, do you think ? Worklady, or workwoman ?'

I made no reply to her remarks except when it seemed demanded. In what follows I put my contributions in brackets.

'What should I put *Empress* to ?' (What do you think ?) 'Emperor.'

'What should I put *duchess* to ?' (Look at them all and see.) This advice did not lead to success, so I suggested that the word should be put aside till the end.

'What does *niece* go with ? Nephew—I think it goes with *nephew*.' This was said with a very wise, knowing look.

She failed to find *nephew*, and laid aside the word. But a little later I noticed it was correctly placed. She did not seem to make any use of the alphabetical order in which the

masculines were arranged, although she had taken an intelligent pleasure in helping to arrange them so.

When I next looked, the child was holding *girl* in her hand and searching for *boy*. She had put *sister-in-law* opposite *boy*, and although she looked at *boy* and read it aloud, she could not realise it was what she wanted. After she had read the list, she declared she could not find *boy*. I said, 'Didn't you read it?' 'No,' she replied, 'that's *boy-in-law*.'

This is a beautiful instance of the way in which perception itself is affected by a preconceived idea.

This exercise occupied 16 minutes 39 seconds. I was much pleased, for thought and concentration appeared to be developing.

Next day my hopes were rudely dashed. Margaret was very restless in the morning, flitting from one thing to another, chattering and playing with an imaginary pussy cat of which she had become possessed. After about an hour I asked if she would not like to do the words. I was told, No; she never wanted to do them again here; she would do them at home; her pussy was so nice, she wanted to play with it. This, I confess, was a blow. There may, I think, have been some psychic disturbance the day before the nature of which I can only guess. Next day there was the same opposition to the games. At night, when she was put to bed, Margaret very often sold herself to her mother as a doll. One of the recommendations that she offered with the doll sold that particular evening was that it liked the Montessori games. Next morning at breakfast she indicated that she would play with them, but I went out early, and nothing was done. In the afternoon she worked a little, or rather watched me doing a word family; but she showed no spirit about it.

The following day nothing seems to have been done. Probably there was no convenient time.

The following day she took the packet of twenty-four

words, read them and placed them on the objects. This took her 12 minutes 56 seconds.

I next presented the material for verb study. The following slips were prepared : *Whisper a word, Speak a word ; Open the book, Shut the book ; Fold the paper, Unfold the paper ; Spread your beads, Collect your beads ; Tie a knot, Untie a knot.* The separate words required were printed on little coloured slips as before, the verbs being on blue slips. The colours certainly added much to the attractiveness of the game.

Dr. Montessori suggests that the colours she makes use of in her English and arithmetical teaching should be standardised, so that a child might be transferred from one school to another without confusion of mind. This is of course very desirable.

I gave Margaret the first slip : *Whisper a word.* She read it. I shall not soon forget the expression of delight that passed over her face as she realised the meaning. She threw both arms round my neck, and approached her lips to my ear. Then discovering that she had no word ready, she stood back, saying, 'Wait a minute.' She then embraced me again, and whispered 'Daisy.' She then built up the sentence with the separate words. After reading the next sentence, she said, 'Pot.' When building up this sentence she took *spread* instead of *speak*. This showed that she was beginning to look just at the first one or two letters of the word. I made no comment, and having finished the exercise she put the used words at the bottom of their respective piles.

The next sentence was *Open the book.* Having performed the action, she looked for the necessary words, and found them all by chance on the top of the little bundles. She was much impressed by this coincidence, and when she came to do the next sentence, *Shut the book*, she said, 'And there is *shut* on the very top.' The word was really *collect*, but she took it and left it quite contentedly.

The next two sentences, *Fold the paper* and *Unfold the paper*, were done correctly.

She now read *Spread your beads*. She went to her box of beads and inquired, 'Can I take any colour I like?' 'Yes,' I said, 'it doesn't say any special colour.' 'Can I take a shell?' She begins to do so. 'No, it says beads. You couldn't take a shell, could you?' 'No.' She now counted over some beads, and brought a handful of different colours. She began to arrange them according to colour. I intervene, pointing out that the word is not *arrange* but *spread*. I demonstrate. The child then reads, *Collect your beads*. 'Can I collect them in my hand?' I say, 'Rather all together on the table.' She gathers the beads together, and then begins to comment on the colours, 'I have two of every one except the purple,' and so on.

She then took the last two slips, *Tie a knot*, *Untie a knot*. This time she compared the two sentences, pointing to each word with her finger. For *Untie* she took *Unfold*, showing again that she was attending just to the beginning of the word.

Altogether she had worked for about half an hour. The hand manipulation involved, I thought, seemed to be restful and soothing; also it seemed to help the smooth progress of the thought process and to allow time for the deepening of its flow.

The following day I gave my little pupil a new Singular and Plural game on which she spent about 13½ minutes.

That morning when we were returning from our walk I allowed Margaret to have a very favourite game of hers—Vice-versa—that is, I became her child. She began to tell me what I should have to do when I went to school. She told me of the Montessori game with two alphabets. She explained that I would perhaps make one word like *sense* with one alphabet, then another word *sensitive*, the *sense* part with the same alphabet and the rest of the word with a different alphabet.



This was very interesting, first because the child had appeared not to care for that exercise, and secondly because this was not an example I had given her.

I inquired the meaning of sensitive. My mentor explained that you were sensible when you were in your wits, and sensitive when you were out of your wits. She gave me an example of being sensitive by capering along the road.

About this time my experiments with the Montessori material were interrupted, because of the arrival of the embossed letters by means of which Margaret was to learn to write. At this she really worked very hard. It possessed distinctly more attraction for her than the grammar games, for which in some ways her mind was not quite ripe.

Nevertheless, after an interval of seven or eight days I took advantage of a favourable moment. I wished to try Dr. Montessori's device of altering the order of the words to see how the sense is affected, and so to throw into relief the functions of the different parts of speech. We took first *the blue bead*. When I began to alter the order of the words, appealing to the child each time to know if this made sense, she declared that only the original arrangement was sensible.

She then took the verb sentence *Fold the paper*. In this also she would admit sense in only the one arrangement.

She next took *Shut the book*. She read this *Shut the door*, and remarked 'M—m, I don't want to shut the door before I open the door, do I?' When looking through the nouns, she rejected *book*, being obsessed by *door*; she then spread out all the nouns, but could not find *door*; she looked again at the sentence, and asked me why I did not put *r* at the end of *door*. Looking at it again she remarked, 'B-o-o-k does not spell *door*.' She then began to look for *Shut the door* among the sentences. She found none that would do; and began to accuse me of spelling everything wrong. Even a worm will turn; and I think I suggested

that *b-o-o-k* might spell something, and then she cleared up the matter.

We have here again a very striking example of the influence of a fixed idea.

This was not my only reward this morning. In connection with the sentence *Open the book* a very interesting discovery was made showing how the method induces thought on the part of the child.

The child's inclination was to deny that there was any sense except with the words in their original order. But when I interchanged *the* and *open*, making the words read *the open book*, she said, 'No sense for what we want, but it might make sense.' She then re-read it. 'It would make sense. There's two ways it would make sense—one for the way we want.' After making this remarkable discovery, while saying 'No sense for what we want,' the child began skipping about the room, thus giving bodily expression to the joy that accompanies mental growth. Here we have a germinal perception of the difference of function denoted by the words Verb and Adjective.

There was now another interval of three or four days when other occupations possessed the field.

I then produced sentences illustrating the function of the preposition. The sentences were: *Lay the pen beside the ink-bottle*, *Lay the pen behind the ink-bottle*; *Put the paper under the book*, *Put the paper in the book*.

In building up the first sentence, Margaret first produced *Lay the ink-bottle*; later she made it correctly.

When I began to interchange the words, she would admit no sense in any arrangement except the first.

In the case of *Put the paper under the book* she admitted that *The paper put under the book* made sense; but she would not allow that *The paper under the book put* was intelligible. I made as far as possible no comments on her verdicts, and I did my best to keep my facial muscles under control.

When told to take the next sentence, the child remarked,

'I think it will say, Take out the paper from the book.' (This shows in an interesting way perseveration from the verb sentences done a few days before.) 'No, it doesn't. That funny little preposition made me change their places.' She performed the act required by the sentence. She then began actively interchanging the words, continually demanding of me, 'Does that make sense?' Peals of laughter greeted any very confused rendering. I then interchanged the nouns, making *Put the book in the paper*, and inquired if that made sense. 'No,' she said, 'for I couldn't do it.'

During the work the child showed a strong tendency to dance and to jubilate. This excitement was, I think, partly dependent on other factors operating at the time, and was not altogether wholesome.

After the game was tidied away, she tried various verbal experiments such as: 'Slipper under embroidered table-cloth and table as well put,' 'Slipper, carpet, sideboard, bell and table and table-cloth put under the carpet,' 'Put the flowers into the grate paper put.'

Altogether Margaret spent on this occasion about thirty-five minutes on grammar study. She then said, 'I must do my writing now, though.' In the midst of her first line of writing she said, '"Is the paper under the book." Can you tell what I mean?'

I was very anxious to carry my little subject on to the study of adverbs, because it was at this stage that Dr. Montessori's young pupils spontaneously broke forth into original composition.<sup>1</sup>

Margaret has always had a good command of words, and has always devoted a considerable amount of attention to them. Hence I thought it could not do her any harm to present the material rather quickly, though I was well aware that she had not yet obtained nearly all she should obtain from the simpler exercises.

<sup>1</sup> *The Advanced Montessori Method*, vol. ii. p. 91.

The sentences I prepared were : *Walk slowly to the window, Walk quickly to the window ; Look smilingly into the mirror, Look scowlingly into the mirror ; Go quietly to a chair, Go noisily to a chair.*

There were now five little bundles of words held together by elastic bands, each set of a distinctive colour, and having its name Adverb, Verb, etc., on the top. The Nouns were white, Adjectives white with a blue line, Prepositions red, Verbs blue, and Adverbs green.<sup>1</sup>

I taught the child to take the elastic band off each bundle, read the name, place it on the table, and then place the other cards in a little pile below it. Thus the words were not all exposed to view, and she had to search the bundles to find the word she wanted. Fortunately for me, Margaret thinks much in word form ; hence I was able to obtain several very interesting glimpses into the working of her little mind.

Here are her reflections as she set out the piles. ‘Is this (Verb) Pile 1 ? Does Pile Noun go last ?’ (I of course took no notice of these questions, which were merely oratorical. I was busy writing and abstracted myself from her as much as possible. I gave any help that might be required in reading.) ‘Preposition. There’s just two of them, *to* and *into*. It says *to* and *into*, *to* and *into*. Pile Adverb, Pile Adjective. I wish you could put this (Verb Pile) somewhere else where there’d be no coloured one next it. Oh, I know. There.’

She arranges the piles thus, Red, White, Green, White, Blue. I need scarcely call attention to the delightful leisureliness—the restfulness of all this, the complete absence of any sense of hurry or strain.

The child now turns to the sentences. ‘Now, must I do what these say, auntie ? I seem to be always doing what

<sup>1</sup> Dr. Montessori’s colours are : Articles, tan ; Nouns, black ; Adjectives, brown ; Verbs, red ; Prepositions, violet ; Adverbs, pink ; Pronouns, green ; Conjunctions, yellow ; Interjections, blue ; and these ought to be used when possible.

these say.' (Reads) '*Walk slowly to the window.*' She does so and stands there. 'Shall I come back again? It didn't say so.' Her mother here interpolates, 'It didn't say, Stay there, either.' She returned to the table and picked out *to* as her first word. 'Now *walk*. Is *walk* in the green pile? No, none beginning with W. Now I'll look in this pile. No, that's *the*. Now I'll have to look here.' (Verb pile, where she finds it.) '*Slowly*. Now in the Noun bundle I'll look for *slowly*. It isn't there, anyway. So I'll look in the green bundle for *slowly*. That's *s, c*, not *s, l*. This is *s, l, slowly*. *To the window*. I'll look in this bundle for *the*, and I'll find *the*, and I'll look here (Noun bundle) for *window*. Now I'm ready. Do I have to change them?' Makes a change. 'Does that make sense? *Walk window to the slowly* makes no sense, does it? *Walk to the window slowly*, does that make sense?' (Yes.) 'Well, I'll see if this makes sense—I don't think it will. Now I don't want any coloured ones together.'

She arranges according to colour and I inquire, 'How many ways did it make sense?'

'Two. Now I'll put away this sentence.' She does so, and reads, '*Walk quickly to the window*. I'll do so.' She does so and returns. '*Walk* I'll leave. Take away this—take away *slowly*. Get *quickly*, *q, u*, where are you?' She takes *quietly*, and asks me, 'Does that make sense?' I look at the sentence and ask, 'Is that *quickly*?' 'No.' She then found *quickly*, and I made the following variations: *Quickly to the window walk*, and *To the window walk quickly*, but she pronounced neither arrangement to have any meaning.

'Now, look here, Take your letter and throw it tree-top. What do I mean? Take your letter to the garden tree-top.'

I saw no meaning in what she said, and suggested that she should read the next sentence, *Look smilingly into the mirror*.

The child read this and turned to the mirror. I then said, 'Did you do it?'

'Yes,' she replied, 'I had the mischief in my eyes, though. I knew a piece of mischief.' Here she went off to the box where we kept our Montessori materials, but I do not know what she did there. On her return she continued, 'I knew a piece of mischief, so I did a piece of mischief.'

This was a very interesting episode, for it meant that what I may call the Puck complex in her had been stirred by seeing her own expression of face in the mirror. That this was so was made plain a little later by her allusions to the *Midsummer Night's Dream*.

Margaret now begins to make the sentence. She took *into* and *the* which were lying in full view. 'Now where would I get *mirror*?' She tries the Adverb bundle with no success. 'It may be in blue. *Look* is in blue; it's a verb, for it tells you what——' here unfortunately she broke off, and worked a moment in silence. 'Now I'll get *smilingly*.'

The sentence being now complete, she begins to make changes in the order. She becomes restless, 'Oh, sweet Hermia' (embraces me), 'the less I love, the more he loves me. Oh, sweet Helena' (embraces and kisses me), 'sweet Helena, sweet Hermia.'

After this outburst she returns to work. 'Does that make sense, auntie? Sweet Helena, does that make sense?' The arrangement is *Smilingly look into the mirror*, which I pronounce to make sense. She then replaced the words in the original order, and inquired, 'Does that make sense?' Yes. 'Do it.' I turn to the mirror and smile into it. 'I wanted to see if you would understand.'

The child now read the corresponding sentence, *Look scowlingly into the mirror*. She turned to the mirror, which was just behind us above the sideboard, on which stood a biscuit-box. 'Oh, I can't scowl, for I'm so merry and happy and smilingly.' She then sang *scowlingly* to herself

several times. A day or two before I had read to her Tennyson's *Merman*, and it is just possible that the singing was conditioned by the unconscious influence of this, the refrain there being 'laughingly, laughingly.'

After making the sentence she scowled to the mirror. 'I'm scolding the housemaid for making a dirt; I'm scolding the housemaid—that's what I'm doing.' She touches the biscuit-box. 'I ate five biscuits; I ate your head; I ate the room.'

I do not altogether approve of this elation, and I draw the child back to earth by experimenting with word-orders. She admits that *Scowlingly into the mirror look* makes sense, but *Into the mirror scowlingly look* does not satisfy her.

'Now I think I'll gather up.'

'Don't you want to do the other two?'

'No.'

As she gathers up she says the name of each part of speech except preposition. Turning to the sentence slips, she asks, 'Does it matter which way the sentences go?' 'No, so long as they're in pairs.' She says over the alphabet to herself, and then announces, 'Auntie, I've put them in alphabetical order.'

On this occasion I did not time the work, but I think it went on for rather more than half an hour.

It may be objected that in thus making use of the names Verb, Noun, etc., Margaret is making use of words without meaning. But is it not rather the case that the meaning of those terms is soaking gradually into her mind, just as from her babyhood she has been gradually assimilating the meaning of the terms in common use around her? I quite expect that if it were possible to continue her instruction on these lines there would come a day when she would imagine that she had always known Verbs and Adjectives and their like just as she always knew tables and chairs and milk and biscuits.

To me the great beauty of the Montessori method is that the activity produced in the child's mind is like an organic growth. We are not, as in most ordinary methods of education, constantly interfering with the wonderful natural development that takes place as the individual mind grapples with the material presented. We are not obscuring the matter for the child with a torrent of words which almost certainly fail to hit the rhythm of his growth. We are not clumsily pulling his half-formed ideas out into the light, thus prematurely causing them to assume rigidity. No, we are giving him wholesome food, and trusting to his natural intelligence to assimilate it. In this method so far as I can see over-pressure is impossible; and progress, of which the speed will be determined by native endowment, is certain.

With respect to some of the word exercises I was anxious to obtain a chart from Margaret showing how speed increased with practice. I usually made use of a stop-watch when she was working. She took an interest in this, but she had no sense of working against time, and I avoided introducing this element into our employment. I thought the gender game might be a good one for my purpose, so next day I suggested that she should do it. She took two minutes to arrange the eight masculines to her mind. She then read the first feminine, namely, *sister-in-law*. She looks down the masculine column in search of *b*, for she knows *brother-in-law* is what is required.

She then takes *duchess*. 'I should think a duchess would belong to a duch. This' (*duke*) 'isn't a duck anyway or a swan. What is it? Dook? Aunt doesn't belong to the *emperor*, does it? No, it belongs to the *uncle*. The *girl*, the *girl*, the *boy*, the *duke*, the *duchess*, the *lioness*, the *lion*, the *lioness*, the *lion*, the *lioness*' (pause while arranging the slips more evenly), 'the *lion*' (another pause to arrange), 'there now. The nic—the neek' (*ce* sounds *s*, I interpolate), 'the *nicce*, the nephew, does it



belong to the nephew ?' She reads over the column from the beginning. '*Nephew*, no, nep, nep' (*ph* says *f*), 'is it the *nephew* ? Now the *empress*, *empress* ; what is the emperor and the empress ?' (' Like a great big king.' It will be seen I make no attempt at anything but a very temporary definition, as I have no desire to interrupt the process that is going on.) 'Aren't they a great big king and queen ? *Workman*, *workwoman*. Why isn't it *work-gentleman* and *worklady* ?'

The exercise was now complete, having taken 10 minutes 58 seconds. It was interesting that no inquiry as to the meaning of emperor had been made the first time the exercise was done.

In the afternoon of this day Margaret did a singular and plural exercise, but she was not very keen on doing it, and in the end I did not succeed in getting enough material for a time chart. To do so would have meant urging the child, and that would have spoiled the whole thing. In the morning, when I asked her to do the gender exercise, she said 'Why not blue and green ?' showing once more how right Dr. Montessori is in laying great stress on the attractive colouring of the cards.

There was now an interval of about ten days during which no grammar study was done. The child was working hard at writing, which really accorded better with her inner needs. The grammar games were, I think, just a trifle in advance of her stage, and so were carried on more than they should have been by my personal influence. Had my time with the child not been limited, the amount of work I had done with her would probably have been spread over a longer period. It must be clearly understood that I never put any pressure upon her, but the child knew that the 'games' were made for her, and that I naturally liked her to use them. Children in general are much more keenly aware of the emotional attitude of their elders than as a rule these elders know.

Our time together was drawing to a close ; so I suggested that she should do the two sentences of the Adverb game that she had not done on the previous occasion. She took it from its place, and began reading the names on the bundles. As before, she alternated the coloured slips with the white ones. 'Don't want two coloured ones together. Adverbs, you go there. Put these Nouns here. I have only two Prepositions.' (Reads) '*Go n-n-n-oisily to a chair*—stamping your feet or talking does it mean ?' She stamps off to a chair. 'I guess what the next one is. *Go quietly to a chair. Go.* Well, it isn't in the Prepositions. Shall I look in the Adverbs ? Got one of them here' (*noisily*). She then completed the sentence and began rearranging. 'Shall I see if this makes sense ? *A chair to noisily go*—Oh, that's two coloured ones together.' She rearranges by colour. I now intervene and make several changes. She at first refused to allow that *Noisily to a chair go* made sense, but finally she accepted all sensible arrangements.

In her own speech Margaret has always used inversions to a considerable extent, and I find it hard to account for her narrow-mindedness with respect to the order of words in the sentences. It appears somewhat as if she had made up her mind at the beginning that only one arrangement could give sense.

While I am interchanging the words I remark casually that these two, *go* and *noisily*, are the two that seem most able to move about. One often finds that a child takes hold of a casual remark like this much more readily than a piece of direct instruction. Yet I was rather surprised to find that this remark had been duly noted.

When we passed to the companion sentence, *Go quietly to a chair*, I heard the child murmuring, 'I wonder if these' (*go* and *quietly*) 'will be the two words I can move about like anything now.'

In making up this sentence Margaret was again led

astray by looking only at the beginning of a word. She took *quickly* instead of *quietly*. I told her to look at it carefully. She then spelled over the two words, and concluded she would find *quietly* in the Adverb bundle. 'Surely it must be here.'

After the game was finished, we drifted somehow into a Verb game, in which the child performed actions and I supplied appropriate words. In the course of this she picked up a tray. 'You take,' said I. 'No,' she corrected, 'I carry. I turn. I place,' performing the acts as she said the words.

This spontaneous development of the work shows how much the exercises harmonise with the natural mode of growth of the child mind.

In working with only one child it is not of course possible to create the spirit of a Montessori school. For Margaret's sake I often wished I had had some more little people about the same stage. At the same time for my own purposes one child was sufficient, for it was not always easy to take the full notes that I desired, and at the same time give just as much help as was required. I endeavoured, however, to maintain what I may call the Montessori atmosphere, and Margaret as usual was delightfully responsive to my efforts. She is not, I am afraid, a very tidy child. She often throws her things down and knows not where she has put them. She loses her spades and leaves even her dolls behind her. If she goes on as she has begun she will never be able to keep an umbrella long. So I told her how tidy the little Montessori children were, how they had a place for everything and put everything in its place. In particular I told her of one little boy who soon after he went to a Montessori school developed such a mania for tidiness that he would wander round the room putting away all the things he could find, even the things the other children were using. This made a great im-

pression. One morning when she was writing and drawing alternately, I heard her saying, 'I'm so tidy that I have to put away my pencil,' and a little later, 'I'm so tidy that I have to put away my chalks.' Thus while the chalks were being used the pencil was not allowed to cumber the table, but was restored to its proper place, and while the pencil was being used the chalks were tidily put away.

Again one day I complained that she had flung her coat anyhow on my bed—not at all like a Montessori child. The following day I heard 'Jean' showing Margaret how to fold it nicely. Jean was one of her multiple selves, a little girl we had picked up on the road one day because Margaret for some reason was of no use to us. Jean, I think, had been six months at a Montessori school, and so was much superior to Margaret. Besides she was two years older.

Like most children, Margaret is apt at times to demand one's immediate attention in a very insistent way. I think I must once have told her that a Montessori child would not interrupt the teacher, but would wait very quietly till the teacher was ready. After this she would sometimes, when she had finished a line in her writing, put her copy-book behind her back and stand very impressively beside me till I looked up. Once she put an arm round my neck and whispered, 'You say "I wish that little girl was a real Montessori child ;—she's taking a long time over those *a's*."' I gratified her once or twice in this matter, but it seemed to me to be creating an artificial situation, so I endeavoured with success to let the practice die out.

## CHAPTER VII

### WRITING, READING, AND SPELLING

I WAS somewhat divided in my mind as to Margaret's instruction in writing. On the one hand there could be no doubt that the Montessori method of teaching the art is the best. On the other hand the sandpaper letters used by Dr. Montessori are script, whereas the modern fashion of print writing has been shown to be quicker, more legible, and in the opinion of many more beautiful. Hesitating thus between two methods, I made no serious attempt to teach the child to write until she was six—that is, past the age when according to Dr. Montessori's observations she ought to have begun.

Dr. Montessori causes her children to obtain command of the pencil by giving them geometric insets made of metal which they trace round in colour. They fill in the design thus obtained with pencil strokes, which gradually grow finer, closer, and more regular. This work appeals to the children to an extraordinary degree. They work with enthusiasm, and soon obtain great facility in the use of the pencil.

The first set of these insets is made in wood. The children are taught to feel round both inset and frame, and then to fit the former into the latter. When they take several insets and mix them, it is most interesting to see how perseveringly they will try to press one into a frame which, to the adult eye, will quite clearly not receive it. At our Free Kindergarten I have often watched little ones turning an inset about and pushing it down in the vain attempt to make it go in. The effect of these efforts is to

train the child's eye so that by and by the futile attempts do not occur, and each inset is fitted directly into its own place.

Dr. Montessori tells us that 'many children who have not arrived at the point of recognising a figure by looking at it, could recognise it by touching it'—that is, by following the contour with the finger.<sup>1</sup>

During our early years we all obtain the eye training demanded by this exercise casually in the course of everyday experience. Any adult would place the insets at a glance. Probably so would a normal child of five or six. What I am beginning to ask myself is whether we as inevitably receive the touch training which, as Dr. Montessori has shown, seems naturally to precede it. Helen Keller says that when 'seeing people' look at things they 'put their hands in their pockets.' 'No doubt,' she adds, 'that is one reason why their knowledge is often so vague, inaccurate, and useless.'

When Margaret was five, I borrowed ten of the Montessori insets, choosing the ones I thought most difficult and let the child try to fit them in. As I expected, she did this easily. About the same time she once or twice practised drawing round them and making designs.

Some six or eight months later I took her with me to visit our Kindergarten in Reid's Court. Here she had an opportunity of trying her skill with all the wooden insets. She was very successful when her eyes were open, and notably unsuccessful when her eyes were shut. She was quite satisfied without getting the insets properly into the frames, even when she found the right hole. She fitted the circle into the quatrefoil frame and left it contentedly.

At this time she had the sandpaper letters in her possession for a week or two, but I saw no effect of the little practice she had with them on her epistles which were

<sup>1</sup> *The Montessori Method*, p. 198.

written in capital letters—the ones with which she had first been acquainted. (For specimens, cf. Fig. 4, p. 106.)

In the summer of 1919 I saw that one could obtain grooved letters in the print script. I asked Margaret, now six, if I ordered them for her if she would work. ‘Yes,’ she said, and generously she kept her word.

The day the letters arrived she worked with them for about an hour. I made a little copy-book for her of brown paper. She ran her finger round the groove three or four times and then made the letter with coloured chalk, then practised again, and then made another letter in the copy-book. The second day the child worked for fully an hour and a half, taking very little in the way of interval. As usual she was perfectly free to stop when she liked. She was carried on by the interest of the work. On the third day we started Book 4 of Nelson’s Print Writing Copy Books. At the foot of each page is a picture for colouring; I arranged with Margaret that she might colour one thing in the illustration for every line she wrote. It was significant that this practice soon ceased, though the picture was always highly appreciated when it came.

One day I told Margaret of a Montessori child who practised a letter 120 times. She was writing *o* at the time and at once announced she would do it 120 times. She did it a great number of times, and then I noticed she had reversed the motion. Then she counted aloud, and practised 29 times. Her next practice consisted of 40 times. Yet the two *o*’s done after all that practice were the worst in the line; they both developed tails down the middle.

In looking at the work I always emphasised the words and letters that were well done, and said little or nothing about the others. Once I pointed to a very nice word and said, ‘I can congratulate you upon that.’ I shook hands

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with her with some ceremony ; she promptly hugged me. Soon after she did a line in which she had omitted three letters. 'Can you greet me on *anything* in it ?' she

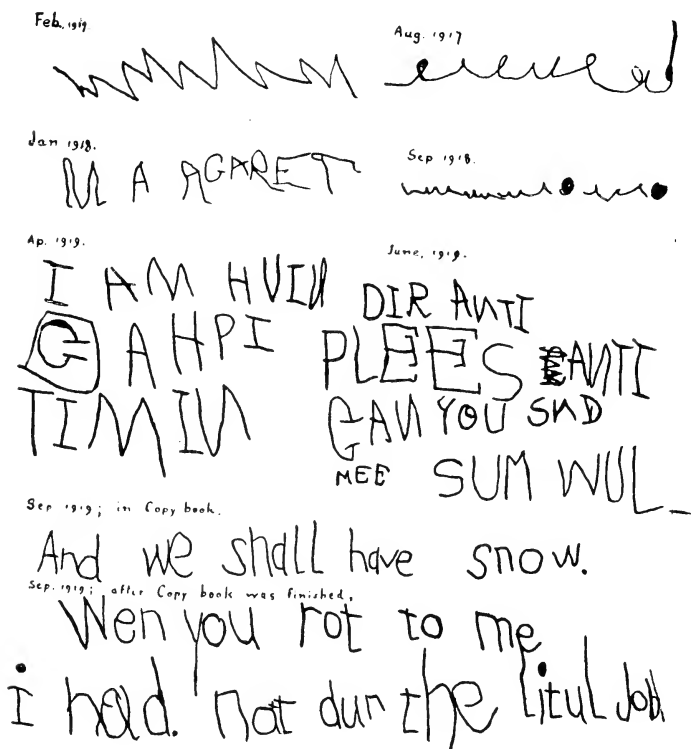


FIG. 4.

## SPECIMENS OF WRITING.

inquired. Such ceremonies appeal to the primitive in the child, and are, I think, legitimate. (Cf. p. 27.)

Writing was done on eighteen different days, by which time the copy-book was finished. The child welcomed a



wet day, because it would enable her 'to get on with her writing.' It must have been that day she worked between two and three hours. After each line was finished it was very usual for her to take a walk round the table or to give a little dance. She always stood while she was writing. The greatest number of lines done on any one day was eighteen. This occupied three pages, and therefore meant colouring three pictures as well. One of the three pages was done in the afternoon when I was not in the room, and did not know my school was going on.

I had a little book on print writing in which are pictures of the right and the wrong methods of holding the pencil. This I showed to Margaret, and she several times asked for the book so that she might teach her fingers how to hold the pencil. The wrong method showed the fingers bent at a sharp angle. One day she said, 'Auntie, do you know what made me hold my pencil the wrong way? Because when I was little I saw a lady in a shop hold it that way' (demonstrates), 'and I copied her, because I thought grown-up people would be sure to do it the right way.' In this tale there may have been some truth; for at three, when her favourite occupation was wrapping up parcels, she modified her method in imitation of 'the man in the shop.' Truly with such eager learners about, teachers are not confined to the schools.

One day I tested Margaret's power of recognising the letters with her eyes closed. I tried *s* first as being very characteristic. When I caused her finger to follow the groove several times, she said *u*. But when I allowed her to guide her own finger, she discovered it was *s*. For *y* she said first *j*, then *v*. She found *e* very difficult, suggesting first *c*, then *g*. These results I thought very interesting in view of what Dr. Montessori found in working with younger children. At the Free Kindergarten we have proved her statement that a young child will often recognise a letter by touch before he can by sight.

Dr. Thomas, in his *Aphasias of Childhood*, gives notes of a case which is important in this connection. The boy, then about eight, was first seen by him in December 1904. At that time Dr. Thomas found his muscular memory good, his auditory memory very poor; his visual memory he reinforced by motor memory. In 1906 he had improved; he wrote his name readily, spelled it out with difficulty. He still reinforced visual impressions by motor, tracing out letters with his finger. In March 1908 this tracing of the letters with the tip of his finger was still his only way of reading words. He was a smart boy generally and good at number work. He was then (age thirteen) partially earning his living by selling papers, and could calculate with lightning rapidity the margin of profit on any number of halfpenny papers.<sup>1</sup>

This boy seems to have rested at the stage of the very young children who recognise a letter by tracing and not by sight—a stage which seems to have been omitted by Margaret.

Now, is this difference due to a peculiarity of her mentality, or is it due to the fact that she has started this work rather late? Has she perhaps missed the time of developing her touch sense? Will she be able to retrieve her loss? If not, what difference will it make? Will she be poorer all her life, as Helen Keller's words might seem to suggest?

These questions are important, in view of the imminent establishment of nursery schools. In these schools we should have an opportunity of presenting Dr. Montessori's writing material at what she considers the right time; but there are many people who think that reading and writing should be rigorously excluded.

For example, in some excellent *Suggestions regarding Nursery Schools*, sent by the Bradford and District Branch of the Froebel Society to the Chairman and Members

<sup>1</sup> *Public Health*, May 1908.

of the Education Committee of the City of Bradford, I find towards the end in very black type : 'No formal work whatsoever in Reading, Writing, or Arithmetic should be expected from children in the Nursery School.'

I do not suppose that this statement would ban instruction by the Montessori method where the child is free to rise and go when he likes ; yet such statements would certainly tend to cause the teachers in such schools to concentrate their attention on other matters. Yet by so doing they may be doing an injustice to the child.

One knows the spirit which dictates the attitude. It is one of sympathy with the little ones, and determination that the pernicious custom of sitting in rows while instruction is poured in shall not obtain in the nursery school.

Every one who knows anything of little people will concur. How class teaching can be given even to five-year-olds is a thing that always amazes me. But why it should not be just as interesting to learn to write as to learn to draw is another thing I cannot understand ; and all little children love to draw.

The question of reading and writing for the under-five child is one that should be settled by experiment, not sentiment.

To come back to my doubts concerning Margaret. I have pretty well satisfied myself that her visual imagery is deficient, but I do not know whether that fact is important in the present connection.

Most adults who are made to trace a figure with their eyes shut visualise that figure ; and this image helps them, if they are required to reproduce it by drawing. I have, however, met with at least one student who said that, not having seen the figure, *of course* she could not visualise it. She drew it by motor memory.

Would a child who was a better visualiser than Margaret

have recognised the letters more easily by touch ? Yet the young children of course cannot be supposed to recognise by means of visualisation.

It was rather interesting that just after my touch experiments with Margaret she found another means of motor expression : ' I 'll walk a curly s,' she said.

It may seem that in these writing lessons I broke every rule of method. In particular I have often myself said that in view of the exhausting character of the lesson for little ones, it should be short—not more than ten or fifteen minutes. Yet I do not prevent Margaret from spending an hour and a half.

It must, however, be remembered that of that hour and a half not all was spent on writing. With a stop-watch I made a practice of timing the lines. When I consider the figures thus obtained, I think that about a quarter of an hour was probably the time given to actual writing. The rest of the time was occupied by my consideration of the work done, by a comparison of the lines, by a walk round the table, or by colouring the pictures. The child's attention, however, was fixed on the writing practically all the time.

Now in the infant class at school the children are not writing during the whole of the quarter of an hour. The teacher is advised to set the model on the blackboard, ' for the children can then imitate both the result and the process by which it is reached, and the teacher can draw attention to the steps of the latter in some interesting chat as he goes along.' In such a lesson I wonder how much time is spent by the children in actual writing.

**Reading and Spelling.**—In a former work I have said, ' I am very sure that all children should have opportunities of learning to read long before they are six.' Margaret has had opportunities, but I cannot say I think she has been very keen to take advantage of them. She could

have taught herself to read two years ago if she had liked ; she had all the necessary knowledge ; she needed only practice. The world has to her, however, been so ‘ full of a number of things ’ that she has never felt impelled to bury herself in a book. And her family is not sorry. Still it is rather a wonder to me that she is not yet able to read *The Times*.

Margaret began to learn her letters just when she was learning to speak. She knew most or all of the capital letters by the time she was two ; by the time she was three she had forgotten a good many.

Soon after she was three, some one taught her that *b-o-o-k* spelled *book*. When I found this out I gave her one or two other words beginning with *b*, including *bad*. ‘ Does *good* begin with *b* ? ’ she said.

At the time I took this as an indication that she was not ready for that kind of work yet. I may, however, have been mistaken, as I had plenty of examples later of a mechanical association temporarily running away with her common sense.

There certainly was an increasing attention to sound about this time, as several of her remarks show.<sup>1</sup>

In September 1917 there must have been some further thought about sounds ; one day when her mother and I were talking, the child (now 4½) suddenly interrupted with ‘ *Yes* begins with *d*, doesn’t it ? ’

I did some words beginning with *d* with her, and she seemed to be getting the notion. As one of my examples I gave *dove* ; she promptly suggested *pigeon*. Later, when I gave *dab*, she capped me with *tablet*. I am not certain whether this was due to ear defect or whether it was a clang association. Some days later the young investigator came to me first thing in the morning with the discovery that *mutton* begins with an *m* and ends with an *n*. I asked her what came in the middle and got the *t*.

<sup>1</sup> *The Dawn of Mind*, p. 166.

She then announced, '*But* begins with an *m*—*m-m-m-m-but*.' This is certainly a clang association—a low type frequently found in certain people. The insertion of the sound *m* before '*but*' shows the effort of reason to justify the assertion brought about by mere mechanical association. We might, I think, regard this as an example of what is called Rationalisation—the practice of inventing reasons to bolster up our prejudices or over-hasty assertions—a temptation from which few of us are free.

That the child's attention naturally turned to word sounds at this time was shown by the fact that every now and then she would make such remarks as, 'You need two *s*'s for our road—twenty siks-s-s-s-s Clifton Gardens-s-s.' '*Please* spells with an *s* at the end.' '*Nose* spells with an *s* at the end; *sweeties* spells with an *s* at the beginning. *Rocks* spells with an *s* at the end. I'm going to bake some rocks. *Some* spells with an *s* at the beginning and an *m* at the end.'

No attention was paid by any of us to the mistakes involved in these statements by reason of the vagaries of our language. We let them pass with little or no comment.

At this time Margaret was interested in trees and their names, so I thought I would try a little reading in connection with this interest. We fixed the leaves of Birch, Oak, Hawthorn, and Willow on to cards, and on slips I printed these words. The game was to take the slip, read it, and put it on the right leaf. Thus the child quickly learned these four words, and later several more leaves were added.

My experiments were now interrupted, and reading and spelling fell rather into the background. In February the child told me in a letter she was 'beginning to get a reading lesson out of a book.' I believe she had asked her mother to teach her to read, and did receive one or two lessons. She could read simple one-syllable words pretty fluently.

In March I gave her a box of letters, and we played at

making small words. She showed some tendency to confuse the end and the beginning ; for example, in making 'boot' into 'boots' she wished to add the *s* at the beginning. On one of the drawings of this period I found the letters H T I W, and the child explained that that meant it was to go *with* another.

I now made some reading cards for her consisting of pictures, and corresponding slips with the names printed on them. The words were *tambourine*, *wagtail*, *kettle*, *boot*, *hat*, *pig*, *giraffe*, *chicken*, *nigger*, *tree*. My selection was largely determined by the pictures available and might have been much better. I had to give the pronunciation of the soft *g*, the *ch*, and the *oo*. Margaret made out all the words with no further help. Of course the pictures were lying in front of her, and possibly helped after she had found the beginning. Two days later we played again, but she did not recognise any of the words as wholes ; she had to sound them out. Nor did she guess much, even after she had got the beginning ; she conscientiously sounded the whole, before pronouncing it as a word. It was instructive to me to notice this ; in an intelligent child I should have expected rather more jumping to conclusions, and perhaps in children of the impulsive type I should have had it. Also I might have had it, if I had had one or two more children in the 'school' to speed up matters. I did not think it would be wise for me to attempt to do this myself.

That summer she was five years of age. I was with her for some weeks at the seaside, but we did no reading, as there were many other interests, the chief one being playing with other children on the shore and in the garden. Early in December she could read her First Step in the Dale Readers, and her mother wrote that she was going ahead. But there was still no attempt to give her regular lessons.

After Christmas she went to a Kindergarten, but had no reading there.

I did not do any further reading work with her until the time of my experiments with the Montessori English material. (See Chap. VI.)

Spelling she enjoyed, and would spell phonetic words readily before she was five. Spelling should be made more of a game and less of a bugbear. We should realise that in the case of little children mistakes are of no importance, unless we emphasise them.

Margaret's early attitude towards spelling seems to have been something like that of Humpty-Dumpty to words ; she thought she might spell any way she liked. After all, was this not very much the position of our ancestors in the Middle Ages ? The visible form of words was by no means so fixed then as it is now.

The fluidity of the child's spelling was deeply impressed on me by the following instance.

When in the summer of 1919 Margaret was working so hard at her copy-book, she had occasion to write the word *little* twenty-four times. Of these fifteen are correctly spelled. In practically all of the others the word is written *litte*. Soon after she returned home I had a letter from her in which the word was used twice within two lines ; the first time it was spelled *litt*, and the second time *litul*.

It seems to me, then, that Margaret's spelling is still not yet fixed, and that as she comes to read more she will gradually come to adopt correct forms. But if she were worried about it and made to feel that to spell wrongly is a transgression, I should be much afraid that certain words might continue to be stumbling-blocks all her life.

If for any reason I specially wished Margaret to learn to spell a word, I should write a letter while she was playing in the room and casually ask some one else how to spell the word ; I should not, unless a very favourable opportunity presented itself, attempt to *teach* her to spell.

One of the advantages of our old Scottish village schools was that the little children were often necessarily present



when their elders were being taught ; and many a 'lad of pairts ' was found to have absorbed much of the teaching that was not intended for him at all. Of course in many a nursery the same thing happens. Baby playing on the floor is found to have learned nearly as much as the others who are doing lessons. To the reception of this knowledge the child simply surrenders his whole self ; he is not distracted by the personality of the teacher.

In schools we fairly often meet with children who have extraordinary difficulty in learning to spell. Once I was shown by a teacher the exercise of a boy who according to her account could 'not spell any word correctly except *on* and he spelled it *no*.' On looking over the exercise I found that he spelled another word correctly in the same way. It was *of*, which he spelled *fo*.

This reversal is rather a common form of mistake ; the child confuses *saw* and *was*, or writes *rams* for *arms*. One finds a similar disregard of the order of the sounds in speech ; thus Margaret said *fess* for *self* for a long time, also *misked* for *mixed*, and on one occasion she remembered the word *pistol* as *spitol*. Again she confused *b* with *d* and *p* with *q*, and was uncertain how *j* should turn. Also in one or two of her drawings I have noted reversal of direction. Possibly all these things may be correlated with a general weakness of the sense of direction. There is need of more evidence in this matter.

Dr. Thomas, who has done some work on the speech difficulties of children, attributes such spelling errors as I have instanced above to weakness in visual memory and a dependence on the motor memory. It fits in with this theory that Margaret's visual images are deficient, and that her memory does seem to be strongly motor. On the other hand, if we consider the confusion between *b* and *d*, the form memory is there whether visual or not in character ; it is simply the direction memory that is lacking. I believe memory for form and memory for direction

have been distinguished by certain American investigators ; but one would think that memory for direction would go with motor memory quite as much as with visual memory.

Margaret's spelling is eccentric, but in what I have seen lately I have not seen any signs of a tendency to reverse the position of the letters. She seems to be guided by sound, and she is not very consistent. In a recent letter she spelled 'saw' *so* ; and she spelled 'wrote' *rot*. Of course she knows that *o* does make different sounds.

This summer (1919), when Margaret was arranging some words in alphabetical order, she showed me 'picture,' and asked me if it was *e*. I said, 'How could you think *picture* began with an *e*?' She replied, 'You see, auntie, I'm not in the habit of knowing which is the beginning and which is the end of words.' At the time I noted this remark, I added that I had not noticed this confusion, and mentally I put this down as an interesting instance of Margaret's ever-ready 'explanations.' But in going over my old notes I see that there is some evidence in favour of her statement, as I have shown above.

It may seem to many that the way in which Margaret has been taught to read is of a too spasmodic and unsystematic character. It may be so. In her case it has happened without design ; but at the same time I think there is a good deal to be said for it. If a child reads fluently before he is six he might easily develop a habit of reading a great deal. This would have the advantage of increasing his vocabulary very rapidly, but the meaning he assigned to all his new words would probably not be very clear cut. Unless he found opportunity and was encouraged to use this vocabulary, it might readily conduce to cloudiness of mental outlook.

Again, the young child's intelligence being not yet on a very high level, the reading material that would interest him might be such as would not forward his progress. And the time he spent on this reading might easily be better

spent on outdoor pursuits and on finding out about *things*. One would be glad to have evidence with respect to the subsequent history of children who began to read very early. In our biographical literature there is some available, but so far as I know it relates mostly to infant prodigies.

Lady Glenconner says of one of her boys, 'His was quite a wide range of reading at six years old ; at seven he discovered for himself *La belle Dame sans merci*, and he had distinct views on what he read. "Now I'm very fond of Marryat," he would say in a tone of zest, "so full of happenings, and all so real and exciting. Not always about Love, like Shakespeare." '

It behoves us to recognise that when we give to a child the power of reading we launch him on an uncharted sea which is not without its shoals and its sandbanks, its rocks and its whirlpools. When the little child learns to walk and thus gains for himself the possibility of an environment beyond his mother's ken, that mother often feels some pangs of fear. But when the child escapes from us and is free of the printed page, what a much greater escape it is ! and yet how little thought we give to its dangers and its delights !

I am not one of those who would prevent the child, once he can read, reading anything he wishes to. There are certain books that I should try to keep out of his way—books of which the style is bad or the thought on a low level. If he came upon such books and wished to read them I do not think I would forbid him, but I should read them myself also, and lead him to talk about them to me. He that has known the best from childhood is not likely to prefer the worst.

In our schools we give too much time to acquiring the art of reading and too little time to cultivating a taste for what it is good to read. We should read to the children, and what we have chosen as worthy to lay before them we

should read over and over again as often as they desire it. They should act it ; they should make pictures under its inspiration ; they should quote it. A book is not like an orange of which the last squeezed drop is bitter ; it must be squeezed, if you wish to gain the heart of its sweetness. In Chapters IV. and V. I have set forth some of the methods I would employ and the measure of success that attended them. My present point is that for the children only the best is good enough. We should choose their reading in the spirit of the kings of old who brought gold and frankincense and myrrh to a Babe lying in a manger.

## CHAPTER VIII

NUMBER <sup>1</sup>

**Psychological Development of the Number Concept.** In a previous work I have given a detailed account of the way in which the concept of number developed in Margaret.<sup>2</sup>

In the fiftieth month she could count *things* with considerable correctness, but if one asked her without offering any concrete help, 'What is one more than six?' she had to count from the beginning. She could name up to six spots at a glance, the spots being arranged as on playing-cards; the six she recognised as two threes.

I make no doubt I could easily have 'speeded up' Margaret's progress in number work, but I was by no means concerned to do so. I think, however, her early baby play with numbers was of real importance for the stability of the erection for which it is the foundation.

Children of five often come to school knowing nothing of number. An infant mistress told me recently that this was the case with ten out of a newly enrolled class of fifty. These children are apt to be hurried in their development. There is not time to let the idea of number soak into them. It is, I think, very unlikely that any of them will make much of the subject.

It should be one of the functions of the nursery school to provide material out of which the child may form clear ideas of number in his own way and at his own time.

<sup>1</sup> Part of this chapter was published in *The Child*, June 1918, ed. T. Kelyack, M.D.

<sup>2</sup> *The Dawn of Mind*, pp. 61-68.

At four and a quarter Margaret was still working her way up to the adult point of view.

One morning I was out with her when she said, 'Cocoanut ice spends with two pennies.' *Spends*, I suppose, meant *costs*. When we looked in her purse we found she had three pennies.

'How much is three pennies? Is it ninepence?'

Some explanation must have followed, and she continued, 'Eight pennies is eightpence, and four pennies is fourpence and one penny is onepence. Why didn't mother give me twelve pennies, and then I would buy a dollies' house and put all my dollies in it.'

'You would need a big one for all your dollies.'

'But Cossack would hold a small one, wouldn't it?'

Cossack was a small doll, and this is an interesting inversion of the true relationship—analogue in some respects to the one given above—'spends.'

When asked one more than anything over four or five, the child still always counted from the beginning. One day I had asked her several questions of this type. At last I asked, 'One more than twenty?' 'Oh, I can't do th-a-a-at.'

By this time she had learned Dominoes and Old Maid and could play both satisfactorily.

At Christmas, Margaret, then four and a half, was putting kisses on her Christmas cards. She still found some difficulty in counting when she put many. 'Put as many as I won't count one kiss twice.'

Counting was much more careful now; but she could not tell what two and three made till I held up two fingers and three fingers for her to count.

She hit upon the plan of making use of spatial reference in much the same way as Professor Sully's boy.<sup>1</sup> I asked her how many people would be at supper. She counted the two in the room, then pointed in the direction of another

<sup>1</sup> *Studies of Childhood*. Sully.

room, saying 'three, four,' then pointed outside, 'five.' She also used the device of dabbing her fingers on the table for each absent person that she had to count. Her thought was evidently still bound up in the concrete.

When she was threading beads she seemed able to do three and two alternately, or two and one alternately, quite as easily as two and two or one and one. This is not usually the case with our kindergarten children.

About this time I tested her with playing-cards. She named them all correctly in 2 minutes  $26\frac{1}{2}$  seconds. She had to count the tens and eights, unless two came in immediate succession. I then dealt out the cards two at a time, asking the child to name the cards and give the total number of spots. She went wrong with a  $7+8$ , and a  $9+10$ . To obtain the total she counted both cards, always beginning with *One*. In only one case,  $2+1$ , did she give the answer without counting. To thirteen such little sums she took 7 minutes 47 seconds. (Cf. with Mary, Graph 3.)

My next experiments were in spring (age  $4\frac{3}{4}$ ). In Addition when counting the total of two groups the child would still begin with *One*. Once she succeeded in giving  $5+6$  without counting. She could do  $3-2$ ,  $2\times 2$ ,  $2+2$ ,  $2\div 2$  in her mind. The examples were generally in concrete terms, *e.g.* 'If two cakes were divided between you and me, how many would there be for each?' Her first reply to this was 'Two halves.'

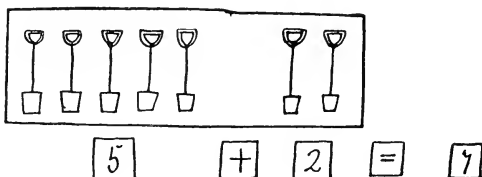
At this time Margaret was fond of playing school with me, and I made for her a few number games.

The first was intended to teach her the figures. I divided a card into nine compartments. In each I put a figure, and the number of dots indicated by the figure. This was the key card. Margaret had some knowledge of the appearance of the figures, as we had often looked at them on gates, and elsewhere. I made also a second card with a figure in each of its compartments. I gave my 'school' some slips of cardboard, and told her she was to

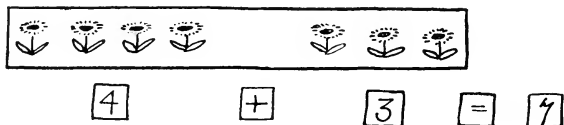
put the right number of them on each figure. This kept her busy for some time. She got all the numbers right except 5, where she put about eight. When she was filling up the 8 compartment she counted three, then said, 'Now, three more to make six,' and then got seven and eight. The realisation of number relations that goes on within the child's own mind is of course the valuable part of an exercise like this. During the operation the teacher should withdraw altogether.

Three or four days later the child spontaneously went for the number card, and played the game again.

My next game was an addition game. On little squares of cardboard I drew the figures and also the signs  $+$  and  $=$ . I made pictures of simple objects in groups, and the game was to place the correct symbols underneath, thus :—



The first sum given was  $5+2$  as above. My little pupil remembered the result of adding these two numbers, and did not need actually to count. The next I gave was  $4+3$ . Here she had to count, and obtained the answer 7.



'Why, it's the same. . . . If you put one along here it would be . . .' She left the sentence unfinished, but



evidently she had made the interesting and important discovery that a slight alteration of the grouping would give  $5+2$ , as she had had before.

A few days later her growing mastery of number appeared in one of her doll plays. She was playing school with 'Teddy.'

TEACHER, 'What is one and two ?'

TEDDY (known by his squeaky voice), 'Four.'

TEACHER, 'No. What is one and two ?'

TEDDY, 'Four.'

TEACHER (with increasing emphasis), 'No. What is one and two ?'

TEDDY, 'Four. Three comes after four.'

I had also taught the sign — ; but I had not been quite satisfied with my concrete representation. Probably this was because subtraction is more necessarily an actual process than addition. It introduces change in actuality, whereas addition may be just a change in the point of view.

The best plan would be to have cards with the different groups on them, and when one was working  $7-2$  put the 5 card and the 2 card together to represent the 7, and then actually take away the 2 group. It might possibly be better to do the whole thing with units—counters or buttons or pictures.

A number game like this might easily be made to give also training in logical thought. For example, 5 violets + 4 primroses = 9 flowers ; 3 chairs + 4 tables = 7 articles of furniture ; 2 horses + 3 cows = 5 animals. An intelligent child would take pleasure in finding the general term under which to subsume the two classes mentioned. I am sorry I have not yet tried this game with Margaret.

At this period we had little time for number, for we were busy with many other things. However, one morning I taught her the notation of the tens. We took her beads, and by threading ten of them and tying the ends of the thread we made several rings. I showed her that when we wanted to write ten we put down a 1 and a 0, which meant one group of ten, or one ring, and no loose beads. Eleven was written a 1 and then another 1, for it meant one group of ten, or one ring, and 1 loose bead. When we came to twenty we were able to take two rings, and so we wrote it 2 and a 0. She easily saw that three tens were 30, and so on to 90. She told me ten tens were a hundred, a word with which she had been long familiar; but this may have been a guess. I do not know if any one had ever told her ten tens made a hundred.

The child seemed to understand the idea quite well.

Three days later I gave her a sum of which the answer was ten, and she remembered how to write it. At this time she was not yet able to write all the figures apart from copies. She did not remember how to write fifteen, which she wanted as the answer to another sum.

At this time I began to teach the sign  $\times$  also with pictures, thus :—



3

$\times$

3

=

9

Altogether I made not more than nine slips like those illustrated. They were not much used. Their chief importance consists in their power to give the child ideas which affect her attitude to experience.

In summer I spent about six weeks with Margaret, now

five and two months. A favourite morning occupation when she waked was saying over the number names. She was still uncertain at the tens. One morning she counted 'Forty nine, forty ten, forty eleven, forty twelve.' She then changed to fifty and went on correctly.

In face of many other interests number was neglected at this time.

The only point of interest was that one day her mother began asking what are four ones, seven ones, etc. The child could not tell without counting. I spread my fingers for her. For twenty ones she said she would need all her fingers and all her toes ; yet she could not tell that twenty ones are twenty. Then her mother began asking, 'How many are five apples?' This she knew. 'How many are five ones?' And thus she got the idea.

The incident was of value as showing how hard it is for an adult to see where a child's difficulties will come.

At Christmas a first card test showed no improvement.

A few days later I tried another. The child named all the thirty-nine cards (I don't use the ace of spades) in 1 minute 42 seconds. She named all correctly except one 8 and one 10. A second chance took 2 minutes 35 seconds. She counted one 10 and one 9, and went wrong with two 8's.

I now dealt out the cards two at a time, asking Margaret to add. This test gave very interesting results, as it seemed to mark a breaking away from the concrete.

The first pair of cards dealt out was 10 and 9. The child kept repeating these two numbers for about half a minute ; she then had to count, taking three-quarters of a minute in all.

The second pair was 7 and 5. The child counted at once, beginning with 1.

Eight and three. 'Eleven.' No counting perceptible.

Four and three. 'Seven.'

Three and two. 'Five.' This answer was given slowly, as if the preceding activity had been fatiguing.

The next three pairs, 6 and 5, 4 and 5, 7 and 8, were all counted.

Then came 7 and 4. 'Seven and four more—seven, and two more—nine, and two more—ELEVEN.'

Next 7 and 6. 'Seven and two more—nine ; seven and three, one more after nine—ten ; and one more after ten—eleven ; and one more—twelve, and one more—THIRTEEN.'

The calculation was done in a whisper without looking at the cards. The final answer came out in a loud triumphant tone.

Several more additions were done without much alteration of method. Thus 8 and 6. 'Eight and six more ; eight and one more—nine ; eight and two more, one after nine—ten ; eight and three more, one after ten—eleven . . .' and so on until she arrived exultantly at fourteen.

Thus she escaped from the concrete, and from the idea that she must begin her calculation by counting from 1 at the same moment.

At this time she knew the two-time multiplication table, but when I tried her, I found she did not know it out of order, and she required to have the sums said for her. She could not herself say it straight through. I don't know whether any one had taught her or she had just picked it up.

The whole test took 9 minutes 47 seconds.

It will be noticed that my little pupil took longer to the test than she had done a year earlier. This is because she is not now satisfied just to count the spots, which no doubt she could have done more quickly than at age four and a half ;—especially as she had realised that there was no need to count both cards. But she was now aiming at something more difficult than just counting ; she was aiming at winning her freedom from the concrete material.

I need scarcely say that I never urged her not to count ; her changes of method have been quite spontaneous.

The following day Margaret asked to do the cards again. This time she did the exercise in  $8\frac{1}{2}$  minutes, in spite of the fact that there was a little interruption. Her method she abbreviated somewhat ; thus, 'Six and four ; one after six—seven ; two after six—eight ; three after six—nine ; four after six—TEN.

In the course of this test she put the interesting question, 'Is it eight and nine or nine and eight ?'

'Would there be any difference ?' I asked.

'It would make a difference, wouldn't it ?'

In spring Margaret named the cards in 2 minutes 16 seconds. She had to count one 10, one 8, and one 7. The addition sums she did in 5 minutes 16 seconds. There was more counting with the finger than at Christmas. I think she always took the larger number first, and sometimes she counted on from it by eye only. She looked less away from the cards than she had done on the previous occasion.

In the afternoon the additions were done in 4 minutes 11 seconds.

The following day naming the cards took 1 minute  $17\frac{1}{2}$  seconds. The additions took 3 minutes 25 seconds.

The addition associations seem now ripe for mechanisation, and probably a little intensive practice would be the right thing ; but this has not been given yet. Not much would be required, I fancy.

One experiment in summer showed that the child, then six, could name the cards in 1 minute 28 seconds. The additions took 3 minutes 27 seconds. In doing the additions she had to count almost always, but she never thought it necessary to count both cards.

When I next meet Margaret, if I take up number work with her, I shall aim at mechanising the associations required for addition by practice with the cards dealt out two at a time, and by other easily devised number games.

Possibly with the aid of the stop watch I shall make a chart showing her how her speed increases. About ten minutes every second or third day would suffice.

I shall also continue the concrete study of the multiplication table, and I shall begin to mechanise the associations involved in this.

If she seems ready, I might do a little work with money and weights and measures. I have already tried one or two experiments with an inch ruler and with a half-pint measure, but these I think were tried before the child was five, and as she did not press me much to continue them I concluded she was not yet ripe for them.

It will be seen that Margaret's arithmetical instruction stretches over a pretty long period of time. Yet the actual hours which have been devoted to it are comparatively few, and the child, if not a prodigy, is quite sufficiently advanced for her age.

Valuable suggestions for school practice are, I think, embedded in the facts I have recorded. Margaret's time is too precious for me to give her a number lesson every day, even if I had the opportunity. She has to give most of it to language study and to nature study and to acquiring control over her body. She has to gather buttercups and daisies, to skip, to run, to jump, to educate her dolls, and to do the hundred other things that an energetic child does. What she requires in number, during the early years when foundations are being laid, is an occasional short, clear lesson, and then to be let alone till it has soaked in.

It is now generally believed that the ability to read implies a certain special brain development; that in teaching a child to read we are bringing about definite alterations in the nerve cells or their connections. Very probably the same is the case with regard to number. In these subjects, then, no child should be held to a lesson when he shows signs of fatigue, and no child should be given a lesson if he shows unwillingness to receive it. In the early years it is

all-important to avoid nervous fatigue and to promote stability of development. Brain growth goes on in the intervals between lessons as much as or more than while the lessons are going on. The intervals play an all-important part in the promotion of stability, and the best guide to the most favourable interval and to the most favourable length of lesson is found in the attitude of the individual.

In both reading and arithmetic we find in our schools cases of extremely slow development. Children who fail to learn to read when every opportunity is given them are termed word-blind. If such children are not mentally defective, however, the blindness is probably not absolute, *i.e.* by proper educational method they may in time acquire the ability to read. In these cases longer lessons are never to be regarded as 'proper educational method.'

No special name has yet been proposed for the children who are deficient with respect to number. Often the defect disappears with the child's growth. This change arises out of the child's inner history, and often seems a miracle to the teacher. Sometimes a child who has been regarded as hopeless at arithmetic all through the junior classes comes at ten, or even twelve, into his numerical kingdom, and takes a good place among his fellows. These retardations may be due to congenital slowness of brain development. They may also be due to defects of our educational system, which presumes that a child is being taught arithmetic when he is in a room where some one is teaching it. Many a University student knows how, if one point is missed in a mathematical lecture, the rest of the demonstration is mere sound signifying nothing. Similarly, if a little child misses the crucial point, his mind either becomes confused or seeks refuge in daydreams. If failure is frequent, he may give up arithmetic as a subject altogether beyond him. A habit of daydreaming may be established, which may account for the startling answers

with which such a child enlivens the classroom routine. It is comforting to the teacher to set such defect down to brain conditions. At the same time she should recognise that remedial measures should be taken at once. Such a child, if kept with his classmates, is certainly wasting his precious time, and is probably acquiring harmful mental habits.

The normal child early feels an attraction towards number. We see this in baby's enjoyment of plays with his fingers and toes. We see it in the way the older child picks up and uses number words before they have meaning for him, and in the counting tasks he sets himself later ; railings, steps, the window-panes in church and elsewhere, the people that pass, paving-stones, bricks in a wall—all these things and many more make a numerical appeal to children, who spontaneously take full advantage of the material thus provided. Skipping and ball-bouncing offer very attractive number material. Some children aim at counting up to an immense number—'the last number in the world,' as one little girl put it. This same child attempted to count the stars, and was much aggrieved by her failure. Fired by the example of other children or on a slight suggestion from older people, the little ones will aim at counting by twos, threes, and so on, thus securing familiarity with the tables. By all these methods an immense amount of valuable practice both in counting things and in the succession of the number names is secured.

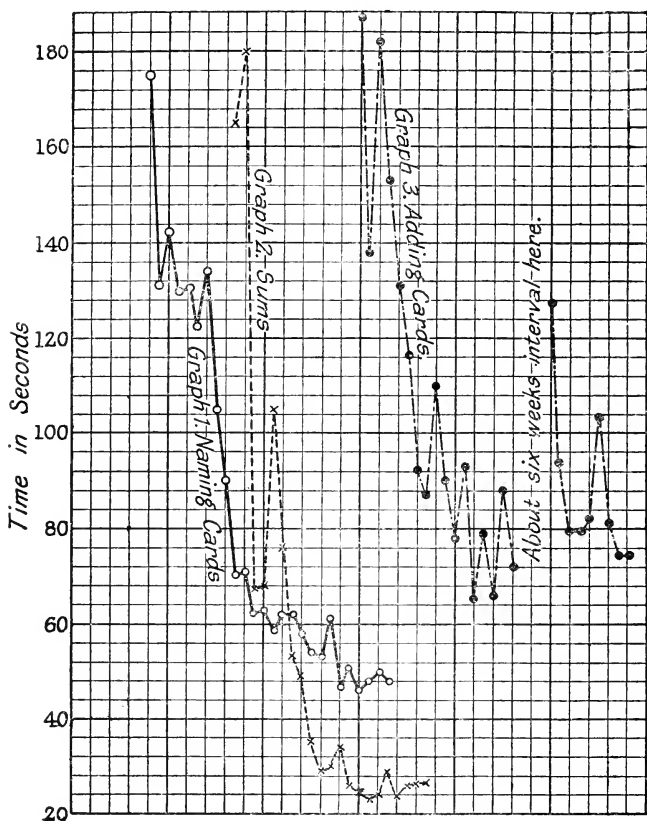
Such number practice should be encouraged, and we should make no attempt to hurry progress. It is very probable that the children who do not show normal development in the arithmetic classes are children who have avoided all this early number work. The time, which is very much less than that shown on the time-table, and the attention, often a vanishing quantity, that they devote to the subject in schools, cannot possibly bring such children up to the level of their classmates. Such considerations



serve to suggest that the arithmetical dunce is made, not born, and that his number 'bump' may develop quite normally if we can hit on a method which will compensate for his early neglect of the subject.

That this is a sound conclusion seems to be indicated by the following case: About four years ago my attention was called by an infant mistress to a little girl who was very backward in arithmetic. Mary was eight and a half years of age, but could make nothing of number, and was still in the 'baby' class. Her reading was satisfactory, and her general intelligence fairly good. She knew the names of the number series, and could count things pretty well. When asked what six and one make, she replied, 'Nine.' When I held up six fingers and said, 'How many more to make seven?' she said, 'Four.' All such questions led to wild guessing. I gave her a set of dominoes. She took to the game readily and played it at home. For more systematic training I used ordinary playing-cards, having beans at hand when more mobile units were required. At the beginning Mary could name the one, two, and three groups without counting; she confused the five group with the four group, and gave poor guesses at the higher groups. I spent some time in analysing the arrangements as they appear on the cards, and the child began to realise the nine, for example, as two 4's and a 1. About the sixth lesson I began to deal the thirty-nine number cards out to her, requiring her to name each in succession (the ace of spades was omitted). I timed the proceedings with a stop-watch. Obviously any thinking or counting on her part prolonged the exercise considerably. Graph 1 shows how her speed increased. After a few days, with the intention of mechanising certain number combinations, I added another exercise. I set down ten little sums on this model:  $5+4=$ , and required the child to read them thus: 'Five and four are nine.' The time required for the whole ten sums I noted. The results are shown in

Graph 2. Both these exercises were, as a rule, performed two or even three times in succession ; the results recorded in the charts are the first for each day.



A month after Mary first came to me—about the sixteenth lesson—I began to deal out the cards two at a time, directing her to add the numbers thus shown. As usual I timed the process. I made no attempt to hurry the child ; I showed her the watch, told her how long she had been,

and sometimes compared with a previous trial. I showed my pleasure when improvement appeared, but I endeavoured not to show disappointment when the opposite was the case. I wished to avoid effort on Mary's part, for I considered a certain placidity of mind the most favourable condition for rendering the combinations required automatic. The results are shown in Graph 3.

Mary's attitude towards number groups was that of a child of four or five. In the course of the eighth lesson I arranged twelve beans in two groups of 8 and 4. By counting she succeeded in making out that 8 and 4 are equal to 12. I then moved one bean from the 8 and put it with the 4. The whole counting process had to be gone through again for her to realise that it was now a case of 7 and 5 making up 12.

Dealing with numbers in concrete form was extraordinarily difficult. At the thirty-fourth lesson I asked Mary how many twos there are in eight. Even with the card 8 before her she could scarcely succeed in finding out. By the thirty-fifth lesson she knew with lightning rapidity that five and four made nine ; yet the question, What is five from nine ? left her absolutely at sea.

After about three months' coaching (forty lessons) my little pupil got her remove in school and began to do simple addition sums. A year after I made her acquaintance she could do both addition and subtraction fairly well, if one held her to the work ; if left alone she was very apt to let her attention slip, and then numerous absurd errors would creep in. The multiplication tables were learned without difficulty and quite satisfactorily. Much mental confusion was still produced by any question directed towards the intelligent treatment of numbers ; for example, 'If you had twenty beans, to how many children could you give one each ?' The actual production of the beans did not seem to help.

When I last saw Mary she was beginning to use her

multiplication tables in connection with such questions as 'How many 8's in 56?' but it was still easy to produce complete mental bewilderment. Hence it may be said that Mary's attitude towards number is not yet very intelligent; but at least she is able to do with fair speed and accuracy addition, subtraction, and multiplication, and is thus able to share the work of her class and to progress with the others.

The great difficulty that she has with concrete number work probably arises from the fact that in early childhood she did not have nearly enough number experience. We hardly, I think, appreciate the enormous difference in experience that there may be between children who have as nearly as possible the same environment. Psychologists have again and again sought to bring home to us by words and illustrations that the kind of world we live in depends on selective attention. But we do not yet realise nearly all that is involved if this statement be true.

Probably most people depend chiefly on their social environment for the direction—at least the initial direction—of their attention. Thus a chance quotation made by a friend may, by its influence on my subsequent activities, make known to me a new world in literature. The little child is particularly dependent on those around him for the guidance of his attention, for he is outside the jurisdiction of the written word. If he were left entirely to himself, the numerical aspect of the world might easily escape his notice altogether.

Fortunately, numerical concepts play such an important part in practical life that most children have their thoughts turned to them at an early age. So long, however, as we allow the introduction of number to the baby mind to be a matter of chance, so long shall we continue to find five-year-olds who, on entering school, are far behind their fellows in their capacity to receive arithmetical instruction.

It should be one of the functions of the nursery school to

direct the little ones' attention to number. The children themselves form excellent material, as they march in single file or take partners or 'form fours.' On a country walk the children can always be interested in—will themselves sometimes start—number conversations about the things they see. In plays and games the teacher must be ready every now and then to emphasise in a natural unforced way the number aspect. The children will thus be led to think about number, and they will go on to experiment by constantly applying this mode of conceiving things to their environment of the moment.

This experimental stage forms the only firm foundation for subsequent number work. It belongs naturally, I think, to the fourth and fifth years, and may without harm be prolonged through the sixth. It is essentially a self-directed activity; the teacher's part is to initiate and guide by means of very brief suggestions. She must waken ideas in the child's mind, and trust to his intelligence to work them out according to his own mental needs. When this is done carefully and systematically, our infant-class mistresses will, I believe, cease to meet with children who can make nothing of number.

## CHAPTER IX

## SICK CHILDREN

IN this chapter I do not propose to treat of ailments of the body. Indeed of them I am not qualified to treat, and expert advice is easily obtained. The children whom I have now in view are sick not in body but in mind. They receive less sympathy than the physical weaklings, yet probably they need more. Samuel Butler in *Erewhon* depicts a country where physical illness is treated as a misdemeanour and punished ; whereas moral obliquity meets with sympathy and help.

Now with regard to children this attitude to moral defects is undoubtedly the right one. Many of us more or less deliberately adopt it ; and there are various signs that even the legislature, as represented by enlightened magistrates in the children's courts, is beginning to recognise that the position is a tenable one. It is perhaps natural that the younger the children are, the more ready are the adults about them to adopt this point of view. One often hears a sympathetic mother or nurse commiserating a little person for having a 'pain in his temper.' In *Erewhon* the morning salutation is 'I hope you are good' ; and in certain circumstances it is only polite to say, 'I hope you have recovered from the snappishness from which you were suffering when I last saw you.' One can scarcely imagine a tactful person in this country addressing such remarks to any one but a child ; but many children would take them in good part.

Children's misfortunes too are sometimes treated in the Erewhonian manner. We have all met the Spartan mother who gives her child something to cry for. One of Margaret's early questions suggests that she thought there was some-

thing to be said for such treatment. I was telling her a tale of 'the little baby' falling. 'Did you smack me?' she inquired. 'Did I be naughty 'cause I tumbled?'

About the same period Margaret happened to be telling me about the famous old woman of the shoe and her many children—'She gave them some broth 'out *any* bread, and whipped them all round and put them to bed.' 'Why did she whip them?' I asked idly. ''Cause they *SPILT*,' she replied without a second's hesitation.

Table manners are often a serious problem to an anxious mother. The more she seeks to train the child to eat nicely and to sit nicely, the worse the child becomes. In some houses one cannot eat a meal happily, because the children are so constantly being found fault with for infringement of decorum.

Now it is quite true that the more the mother checks the child, the worse the child becomes; but very few mothers, though they observe and comment on this fact, learn from it the obvious lesson, which is that they should try another method. It is no more right to find fault with a child at table than it is with an adult, and we should no more think of doing it.

Are we then not to teach the child how to behave?

Certainly; but the children who are constantly being found fault with know quite well how to behave. We have only to listen to them instructing their dolls or younger children to realise this.

From the very beginning a child should be taught to eat tidily, not to fill his mouth too full, to notice how awkwardly liquids behave if spoons are held in certain positions, to like his bread cut in neat pieces. After he knows these things, and is able to manage almost or entirely for himself at the family meal, we should treat him with the same politeness and consideration that we show to the other members of the party. Imitation will generally suffice to keep him on the right lines.

Much fault-finding will practically always increase the fault it is meant to cure, just as many cautions will induce recklessness.

How often we hear the anxious mother offering to her child the poor consolation that she told him he would fall, if he were not careful. He might reasonably reply, 'And it was just your overtelling that made me careless, and so brought about my fall.'

I know it is difficult to refrain from a word of warning, when we see our little ones adventuring forth ; but as a rule nature tells them to be careful far more effectively than we can, and we shall be well advised to leave this work in her hands.

It is of very special importance that all fault-finding should be avoided at meal times, for enjoyment is essential to digestion, and how can even a child enjoy a meal accompanied by a running fire of unfavourable criticism ?

It is well known now to psychologists that the child's natural and, within limits, wholesome desire to be noticed may lead to almost incredible naughtiness. To make much of a child's offence, especially perhaps to tell other people about it, is a very good method of bringing about a repetition of the offence.

Of course the child doesn't know the source of his own naughtiness. He is often greatly troubled by it, and he acquiesces, one might almost say, with joy in his own punishment. And the more impressive the punishment is, the more certain is the repetition of the fault. Neglecting it, treating it as a babyish act which will disappear of itself as the child gains sense, will often effect a cure.

Inexplicable crying or screaming fits which are sometimes a great worry to mothers may arise in much the same way.

'Once a mother consulted me about her two-year-old daughter who had terrible crying fits at night. The mother had done everything to break her off the habit. She had even spanked her. Of course I stopped that immediately, for a child should never be spanked. This



child was healthy, so sickness was not the cause. I thought she might be crying to get her mother's company, and told her mother to put her in the next room alone whenever she cried. It did no good. The little girl would come to her mother in the deepest distress, sobbing, "Mother, I can't stop crying. You'll have to put me in the other room!" That gave me a clue and I discovered the trouble. The child had an abnormal appetite for being noticed, and wanted everybody to be thinking about her. I advised her mother to put her to bed in a distant room and tell her that she needn't even try to keep from crying, for no one would be disturbed. For a few nights she did cry, but no one came near her, and she did not know that any one was listening. When crying no longer attracted attention she stopped it. She went quietly to sleep every night and slept soundly.' <sup>1</sup>

When the screaming fits do not take place at a regular time there are often premonitory symptoms; and an attack may be staved off by a happy diversion of the attention at the right moment. It is a good thing, if possible, to enlist the child's co-operation; advise him when he feels himself becoming flushed and angry to take a few long breaths, three or ten according to his power of counting, or to take a run in the garden, or to go and sponge his face with cold water. When he is successful in warding off an attack, make it evident that you regard him as a man; if he is unsuccessful, gloss over the failure and assure him that he will manage better next time.

Some people think it a good thing to treat the child with coldness for some time after the fit of temper has passed away. To a warm-hearted child, such as these passionate little people usually are, this is a very severe punishment—too severe I am inclined to think. If we only knew it, the development of the screaming fits is probably our fault as much as the child's. And the least we can do is not to

<sup>1</sup> Quoted in *Child Study*, April 1916.

make matters worse by letting the matter assume too large proportions.

If the trouble is physical, as it sometimes is,<sup>1</sup> then certainly coldness is out of place. If it is mental, all psychologists would, I think, be at one in saying that we should not do anything which would cause the matter to linger in the child's thoughts. Let it slide out of recollection as quickly and gently as possible.

When the tantrum is in full swing, of course the child cannot be in the family circle ; he is best in a room by himself, unless there is danger of his breaking something. When he recovers, he should be welcomed back, not with a fuss ; but it should be plain that we are glad to see he is his sensible self once more, and not the silly baby he had temporarily become.

**The Untruthful Child.**—Among the moralists of this country—and most of us are moralists—truthfulness is reckoned a very important virtue. When a child is for the first time detected in a direct lie, his relatives and friends often receive a profound moral shock. Their distress is very great, especially if the lie is told in such a way as to throw blame on some one else for some act committed by the child himself.

I once happened to be staying with a friend when just such a lie was told. A little child had spilt something, had denied it, had attempted to put the blame on his father, and then, seeing that this explanation was not believed, had begun to throw blame on the maid ; then, realising that she had not been in the room at all, had resorted to repeated asseveration, ' I didn't do it, I didn't do it.'

At this stage I heard the story, and saw the child, now a

<sup>1</sup> Violent screaming fits, my friend Dr. John Thomson tells me, are a common symptom in many diseases of childhood that cause severe discomfort and hypersensitiveness. In such cases the use of simple medicines will often rapidly restore the child's equanimity and prevent recurrence of the attack.

sobbing little figure, but still firm to his assertion. I looked at him for a minute, then I said, 'I think what you *mean* is that you did do it, but you 're very sorry and you 'll try never to do it again. Now kiss mother, and we 'll go and tidy up.' My explanation and advice were accepted, and so the matter ended.

It may be said that I simply offered the child a way of escape from what he was beginning to see was an impossible position. But I think my explanation was fundamentally true. I have elsewhere tried to show that some children deny what has happened or is actually happening in the endeavour to crush it out of existence, to make it not have happened. This practice is not confined to children. Many adults will deny fear or other emotional experience that they do not choose to have.

Again we must remember the tendency to automatism that is very marked in all young children. A child having once begun to deny or to assert may easily fall into a state in which it is impossible for him to say anything else.

Thirdly, when a child throws the responsibility for his act on another, he often knows very well that no blame will be attached to his substitute. When he spills, cold looks, words of reproof, and perhaps punishment are his portion ; but when father spills he is assured that it doesn't matter, that accidents *will* happen.

A great number of children's lies—perhaps the bulk of them—spring from fear—not always the fear of punishment ; more often, perhaps, the fear of displeasing those who are dear to them, of disturbing unfavourably that social atmosphere which bulks so largely in human happiness. If a child succeeds once or twice in preserving, by means of a lie, that social harmony which is of such moment to him, there is some danger lest a habit of untruthfulness may develop. It is therefore of importance to make him early realise that you value truthfulness, that you like to feel that you can trust his word.

If the fault has developed, meet it with frank discussion and sympathy for the weakness which it discloses. Do not let it run underground. Children often become morbid on the subject of truthfulness, and may suffer tortures of remorse over an undiscovered lie. This attitude is simply a reflection of that of the adults around them. They have been made to feel that to tell a lie is a very terrible thing, but they do not in the least know why. Possibly they have gathered the notion, or even been actually told that God is angry with them if they tell a lie ; and in consequence unknown terrors lie in wait for their solitary hours. Serious psychic injury may result from these emotional storms.

Another type of lie, generally regarded as less serious, results from a careless, inaccurate habit of speech. A child only half looks at things. He makes statements concerning them and then feels impelled to stick to his statement. Such children require to be trained on scientific lines. It is easy to devise observation games in which exactitude of expression shall be aimed at.

Allied to these children are certain imaginative little people who allow their play world to become mixed up with the real world. A teacher once told me of a little pupil of hers who possessed an imaginary dog, about which he would talk with grave matter-of-factness. This same child once came to school with a tale about how his father had broken his arm. For some time the teacher made daily inquiries as to his progress, and received varying reports. On meeting the mother some time later and referring to the accident, she learned that there had been none.

Then there are children who indulge in a game which reminds one of the wit combats of the Elizabethan taverns. This is a form of play, and the rules of the game seem to be pretty well understood by most children. Thus a small

friend of Mary's once announced, 'My cat will eat bread and butter.' 'Oh,' said Mary without the slightest hesitation, 'mine will eat bread and butter, cakes and gingerbread.' The challenge was taken up. 'Mine,' retorted the friend, 'eats rice pudding.' 'Mine,' returned Mary, 'eats plum pudding and all sorts of pudding.' 'Mine eats blancmange.' Mary promptly capped this with 'Mine eats blancmange, and jelly and strawberries and cream, and gooseberries and raisins.'

Those who know children will not find it hard to believe the fact that Mary had no cat at all.

Sometimes one unwittingly leads a child on to this kind of contest. I was once playing a desert game with Margaret (4 $\frac{3}{4}$ ) in which we were riding along on our camels. It happened that I had recently seen one of the exhibitions of wonderful war photographs, among which I had noticed one of a soldier with his hand in a camel's mouth. Fearing that in previous games I had presented the camel in a rather unamiable light, I appropriated this incident for my own camel. My little companion at once took up the cudgels on behalf of her animal. It turned round its head and talked to her; it told her the way home; sometimes it would get a book and read it; and so on. Possibly this was a polite way of indicating that my story was too wonderful for her to believe. But I incline to think it was just that my words had set free the impulse to romance, which after all is not extinct in many adults, as innumerable 'tall' stories testify.

Some misstatements are wish-fulfilments. Lately, a six-year-old friend was telling me of a walk she had just had with her father by the river. 'I paddled, and I saw lots of little fish, and I stooped down and I caught one in my fingers, but I let it away again.' Later I referred to this assertion in her father's presence; he scouted it. I turned to the child. 'I thought I did,' she said in a subdued, half-puzzled voice.

Similar misleading utterances may arise from the identification of the self with some imaginary character. One morning I was telling Margaret a 'Little Mary' story. I told how Mary when about a year and a half had one day been trying to help by mixing up a pudding, and how her little hands were so clumsy that they sent much of the pudding right over her face. Hardly a minute elapsed after my conclusion when Margaret looked up and said, 'Do you 'member when I was a little baby how I mixed up a pudding and it went all over my face?' This incident well shows how the plastic personality of childhood enables us to remember many incidents of our early youth which never really occurred.

These romantic tendencies in children are among those of which little or no overt notice should be taken. Yet they give valuable indications of the kind of training required by that particular child. For him stories must be chosen with special care and should be strictly limited in quantity. His attention should be directed to doing and to learning. Contact with other children and their criticism will be helpful. Games are excellent, if we can arrange so that the child will enjoy and spontaneously seek them. We must beware of simply suppressing the tendency so that it no longer shows itself in our presence, but is indulged in the inner life of the soul.

**The Disobedient Child.**—Disobedience is often directly taught. One regrettably common method is by offering bribes for obedience.

'A baby girl of nineteen months was sitting on her mother's lap—one of the most sensible and careful of our mothers. The father beckoned and called to his baby daughter to go to him a little distance off. She firmly declined. He held up a ha'penny and she capitulated with glee! Nineteen months! The way these children are bribed with ha'pennies is dreadful. They demand ha'pennies before they will do their bounden duty—

things about which there should be no question at all. This child must have a ha'penny or he will not wear new boots, and that a ha'penny or he will not submit to be washed. They get their way and spend on their pleasure a sum in far higher proportion to the family income than children of the wealthy classes, and far higher than they could ever rightly continue when grown up.' <sup>1</sup>

A mother brings to school her five-year-old boy kicking and struggling in her arms. At the door she sets him down and gives him a penny to induce him to go in quietly.

Here is another scene from life: 'Tommy, will you go a message for me?' 'I will not.' 'Lizzie, will you?' 'I will not.' 'Tommy, will you go if I give you a ha'penny?' 'I will not.' 'Lizzie, will you?' Lizzie accepts the offer and goes off. The harassed mother returns to her work, having given an excellent lesson in disobedience and selfishness.

Bribery and threats are very effective ways of inoculating a child with disobedience. A threat is something like a 'dare,' and a child of spirit will take it up. Moreover, there is always the sporting chance—and sometimes the odds, as the child knows, are overwhelmingly in favour of it—that the threat will not be carried out.

Our teaching of disobedience is not always so flagrant as this. One often sees a mother, having given a command to a little one, watch to see that the child does what he has been told. Now this watching is just equivalent to a suggestion that he should not obey. These commands are very often prohibitions; and by our manner we keep the attractive idea in the child's mind, and add to its compelling power. We reinforce the idea so that the child cannot resist. We then blame or even punish him for disobedience.

Commands should be given in a matter-of-course way and obedience taken for granted. It will generally be obtained.

Small matters should not be made questions of obedience

<sup>1</sup> *The Diary of a Free Kindergarten*, by Lileen Hardy.

or disobedience. If a child takes his medicines without a fuss, and goes happily to bed at the right time ; if we can trust him when playing out alone not to go beyond the boundary we have assigned, then he is an obedient child. He is a responsible person and should be allowed to command himself as far as possible. How often does one see people turning trifling offences into serious ones because they *will* drag in this question of obedience.

The way in which we give commands is of considerable importance. Thus it is better to say, 'Now after you've tidied your toys, we'll go for a walk,' than to say directly, 'Now tidy your toys.' The child feels much more of a free agent in the one case than in the other.

Again, often a time warning should be given so that the child may adapt his mind to what is coming. 'In five minutes nurse will be coming for you,' or 'There's time for just one more game,' are tactful announcements, and might save many a difficulty.

With some children the words 'Thank you' and 'Sorry' give much occasional trouble. It seems as if at times they could not bring them out. Margaret has stumbled over both. Almost from babyhood she developed a rooted objection to saying she was sorry, for which I could never fully account. She had broken one of her dolls, and some time after she said to me, 'Are you sorry I broke the fair "flapper"?' 'Yes,' I said, 'aren't you?' 'I should be,' she replied enigmatically, and that was all I could ever get out of her.

Of course it is ridiculous to command a child to say he is sorry. If we make him say so when he is not, then we have made him tell a lie, which is good neither for him nor for us. If we fail to make him, having once commanded him, then we turn him into a disobedient child, which again is good for neither party.

What appears to be an obstinate and unreasonable refusal to say 'Thank you' also sometimes occurs. It is



not altogether easy to explain this ; but often it is not, I am sure, a refusal ; it is a nervous inhibition. The child cannot say 'Thank you.' I have seen such a difficulty arising in the matter of a piece of cake for which a little girl neglected to return the conventional thanks. The cake was put to the side of her plate, and she was told she must not have it till she said what was expected. She flushed, looked distressed, but made no attempt to touch the cake. But she would have nothing else. After she had finished what she was eating, I pushed the cake towards her and said as casually as I could, 'Well, say "Thank you" to mother and eat up your cake.' This relieved the tension. She dropped out a meek little 'Thank you,' and the incident closed.

I have seen a father urging a baby to say 'Ta' before he would give it a biscuit. Baby cried and stretched, and cried and stretched, but apparently wouldn't say 'Ta.' Father kept on, 'Say "Ta," Baby, and you'll get it,' while he held the biscuit just out of reach. At length, quite accidentally to all appearance, Baby said 'Ta' and received the promised reward.

Now here I think Baby's attention was so concentrated on the biscuit that she had not any idea what she was required to do. I think it was her father's constant repetition of the syllable that caused in her brain a cumulation of nervous energy which discharged itself in the sound. It was purely automatic. The child was probably quite unaware she had said it. Had she been at the thinking stage, the giving of the biscuit would have seemed to her just as arbitrary as the withholding of it.

Here as elsewhere we must try to realise the point of view of the child. Before we expect him to obey, we ought to make sure he can obey.

**The Tell-tale Child.**—Many adults have a great dislike to the child who tells tales. To tell tales in order to get

some one into trouble is, of course, a nasty thing to do. To tell of some one else's faults in order to emphasise one's own virtues is also not an admirable practice. But in the case of little children 'tales' seldom or never belong to either of these classes.

When Margaret was two and a half she saw a three-year-old acquaintance in the park pulling off her bonnet, and she said, 'Isn't Frances a naughty girl?'

Now to an adult this looks a little like self-righteousness. But I do not think the question is to be so interpreted. It is part of a child's business to find out what is naughty and what is good, and how can he do this unless he asks just such questions as the above? Margaret's inquiry (p. 137), 'Did I be naughty 'cause I tumbled?' has precisely the same end in view as the inquiry concerning Frances. The child is trying to form a concept of naughtiness just as she has formed other concepts. She knows what a bird is or what an animal is because she has heard these names applied to many objects, and she has picked out certain of the qualities they have in common in virtue of which the name is applied to them. In the same way she is, as it were, collecting instances of naughtiness in order that she may realise clearly what naughtiness is.

When a little one returns from a visit to other children we sometimes receive such a report as this: 'Marion spoke to her mother when her mother was speaking to some one else.' Now this probably means: 'You have told me that I should not interrupt mother when she is speaking to some one else: is this true for every one?' Such a question is not to be regarded as tale-bearing or gossip.

Again, when some one coughs and the child inquires, 'Did you put your hand up?' no reproof is implied, nor is the question rude. In all such questions a genuine answer should be given. If we consider the rule referred to is of universal application we should say, 'Certainly I did,' or 'No, I am sorry I didn't. I ought to have, but I forgot.'

If, on the other hand, the rule is not one that we consider of universal application, we should say so, and in this way help the child in the very difficult task of distinguishing between morality and convention.

**Delicate Children.**—When we have learned to train children properly from infancy, it will probably be easy in most cases to prevent any sickness of the soul from arising. There will always be, nevertheless, cases in which such sickness is peculiarly apt to occur. These children may be called delicate children. The two chief types of delicate children that occur to my mind are the nervous child and the only child. Very often they are one and the same.

Nervousness shows itself in early infancy in difficulty of adjustment to the new conditions that obtain after birth. Indigestion, light sleep, sudden starts, much crying characterise the nervous baby. I wonder if most infants, as they lie on their nurse's knee after the bath, hold up little trembling hands as if imploring protection. Or is this a sign of nervousness? I have seen it in both the babies that I have known well; and neither of them is, I think, unhealthily nervous. After all, to be born must be a very alarming experience.

In little children nervousness may bring about inability to sleep, inability to eat, inability to perform the natural functions. These difficulties may become so great that a doctor is consulted in the belief that something is organically wrong.

The trouble generally arises from the suggestibility of the child. He is what you expect him to be, he behaves as you expect him to behave. A baby is very soon a bundle of habits, and you have had the formation of those habits in your hands. It is wonderful how even a tiny infant who will lie quietly in his mother's arms may insist on his father or his nurse walking up and down with him all the time they have him.

When a child comes to understand speech and begins to

realise himself as an independent being, we find the phenomenon of contra-suggestibility developing. To a certain extent this is a normal, perhaps even a praiseworthy characteristic. We all have at times the feeling that we do not wish to do a thing just because it has been suggested to us that we should do it. Margaret once received a present of one of those little boxes with materials for making designs. When she was looking at the pictures of the models given as exemplars, the donor pointed to one and said, 'You might make that one.' 'I don't want to make your suggestion,' said the child, 'I want to make my own.' So whatever model was chosen, it was not that particular one.

The desire to act on their own initiative becomes in some children so marked that we can count on their doing the exact opposite of what they are told. They resemble the cat in the old rhyme :—

‘The dog will come when he is called,  
The cat will walk away.’

There is, of course, no great difficulty in managing these children. One has just to play their game—not too seriously—until they realise the foolishness of it, and attain a legitimate measure of real independence. The phenomenon is apt to become troublesome only in cases where this legitimate measure of real independence is not allowed. When we observe contra-suggestibility or the more serious condition of negativism we have special need to ask ourselves if we are obeying Emerson's wise injunction, 'Respect thy child. Be not too much his parent.'

Negativism consists in a refusal to do anything that is asked or expected. Sometimes it takes such an extreme form that, as I indicated above, the mother thinks the child has some strange disease. And of course if a child refuses to eat, refuses to sleep, refuses to do his physical duties, he soon will be physically a sick child. At first the

sickness is purely mental, and is brought on chiefly by over-anxiety on the part of the parents. Only children have to be ranked as delicate mainly because they are almost certain to be the centre of interest in the household. If their appetite fails, if they have a bad night, if they look pale, the whole house hears of it and the concern is great. And children, like their elders, love to be interesting.

In fairness to the child we must recognise that once negativism is established with respect to any action, its grip upon him becomes so great that he cannot help himself. A mother is very anxious that for the sake of his health her little boy should take a certain article of food. Just because of this anxiety, which throws doubt on his taking it, the child views the food with suspicion. He tastes it, does not like it, as he expected, and refuses it. The mother presses it on him. The greater the pressure, the greater his resistance. He cannot and will not take it. Sometimes an older child, in spite of the inner resistance, may succeed in swallowing the obnoxious food in order to please his mother. Food taken in such a way will not do any good. Moreover, the resistance may bring about vomiting, and so the child's plea that he really and truly *cannot* take the food is vindicated.

It is, I think, between two and three years of age that we are most apt to find the beginnings of these troubles. It is perhaps not without significance that this is the period when conscientious mothers are beginning to think and talk of the importance of obedience.

A child is so suggestible that it is often difficult even for those of us who know something of the psychology of suggestion to avoid doing him harm. We notice he looks tired on a long walk. We comment on his fatigue ; we sympathise, advise him to go slowly, to have a rest and then go on again. When he forgets his fatigue and moves about when he should be resting, we remind him of it, and so increase it.

I have no doubt that fatigue sometimes causes over-excitement in a child and makes him run about more than is good for him. In such circumstances we should restrain him for his own good, but never by making him think of his own bodily condition. It is easy to propose a quiet game or a story in such a way that the child will hail it with delight. This will give him rest and will at the same time produce joy.

Now joy is accompanied by definite physiological changes which make it equivalent to or rather superior to rest. It brings about the addition of adrenin to the blood. This substance constricts the smaller blood-vessels, thus raising the blood pressure and bringing about a freshening of the muscles. Joy is attended by an increase of sugar in the blood, and this also has a favourable effect on the muscles. It also lowers the inhibition exerted by the upper layers of the cerebral cortex ; it increases the activity of the cranial and sacral autonomic nerve-centres ; it increases the expansive and extensor movements of the body ; it conduces to the healthy performance of the functions of the skin.

All this is only the translation into scientific terms of the well-known truth :—

‘ A merry heart goes all the way,  
A sad one tires in a mile-a.’

But the knowledge of these scientific facts gives a firm basis to our empirical belief in this adage.

It is joy that makes the child tireless in a walk when he is allowed to scamper over the links as he pleases. It is want of joy that fatigues him when he has to proceed in an adult manner along a road or through the streets of a town.

On such walks, then, we owe it to the child to play with him, to give him the joy which will carry him along without fatigue. If, in spite of this, fatigue shows itself, we should

allow or suggest rest, but never allow the child's attention to fix itself on the fatigue.

Nervous children are regrettably common nowadays. It is, I suppose, almost inevitable that our comments should be called forth by symptoms of nervousness more readily than by symptoms of health. It is a pity ; for the effect of comment is to fix the symptoms. I suppose there are children who are nervous by heredity ; but imitation and suggestion, quite apart from heredity, are quite sufficient to make the child of a nervous, jumpy mother a nervous, jumpy child.

I had once a little class of eight-year-old children. One day Lilian knocked over a pencil-box with a loud crash. Mona jumped. 'Why do you jump ?' I asked.

'I always jump half out of my seat.'

'But why ? Alison didn't jump.' Then I added in a reproachful tone, 'You must have your nerves in very bad order.'

A little later a similar accident happened. I turned at once to Mona. 'Did you jump ?'

'No.'

'*That*'s right.'

Family comments on a child's nervousness are nearly always such as will increase it, and they may even induce a certain pride in it. Good health and steady nerves are a far more legitimate source of pride, and the child should be made to feel this.

## CHAPTER X

## THE NURSERY SCHOOL

WE may, I think, take it for granted that our modern thought recognises that there should be some place where the poor mother, who has to do outside work for the support of herself and her family, can with an easy mind leave her little children. Crèches and day-nurseries have a recognised place in our social system.

It is not yet universally realised that the 'non-working' mother needs help just as badly. If she is a tidy woman, her life in our cities is one continual fight against dirt. She has the floors to scrub, the grates to clean, the clothes to wash ; and with all this there is the continual preparation of meals, which in some families, owing to the idiosyncrasies of the workers' hours, seem to be wanted at every time of day. Very often there is a young baby, and this means that the mother frequently gets little rest at night, besides having to give constant attention to the infant during the day. If the home is in a slum district there may be no water in the house, and the work that is involved must be tried to be appreciated.

Now for any grown-up person even in the best conditions a toddling child is a trying companion—he does not 'stay put' like a baby ; he never rests, and he has little or no idea of danger. His mother turns her back for a moment ; Johnny has the coals on the floor, or has pulled the kettle over on himself. She leaves the poker in the fire for a few minutes ; Johnny pulls it out to touch the red end. Then the continual chatter which is good for the child is bad for the mother ; it gets on her nerves. And her treatment of Johnny is guided less by his deserts than by the state of her temper at the moment. This is bad, for it



teaches him that caprice rules the world, and that if you yell loud enough you can get your own way.

Moreover, the toddler requires fresh air and space. If he is constantly in the room with his mother, he cannot obtain these necessities of healthy life. Possibly the mother often pops him on the bed, or in some way restrains his activity for safety's sake. Hence are derived the little bent weak legs that distress us too often in our streets.

According to Dr. Brownlee, Statistician to the Medical Research Committee, unhealthy surroundings tell twice as heavily against the toddlers as against the infants. 'It is,' he says, 'in the country districts of England that the best conditions for the upbringing of healthy children are observed. Taking the death rate in these districts as a standard, and taking Salford as an example of an opposite nature, it is found that while during the decade 1891-1900 the infantile mortality was twice that of the country districts, the death rate between the ages of two and three years was four times that of the country districts.'

Sir Leslie Mackenzie, from whose Report on Scottish Mothers and Children <sup>1</sup> I take this passage, concludes that a 'toddlers' playground is fundamentally essential to the health of the children that occupy the crowded quarters of every city.' 'Every main block of houses,' he says, 'should have its toddlers' playground. If the playground is to have its full effect, it must be near the house, easy of access, and superintended with skill. It then becomes a day camp for physical education.'

The question of superintendence is a vital one. The superintendent must combine in a special way the qualities we demand in a good children's-nurse, with the qualities we require in a teacher of little ones. She must notice the children's physical needs and she must be prepared to train them in habits of cleanliness. Though they have attained the dignity of toddlers, many of them have little or no

<sup>1</sup> Carnegie United Kingdom Trust.

control over their physical needs. Not long ago I was in a play centre where were gathered some thirty newly enrolled little ones under five. During the first half-hour there were, I think, four 'accidents.' The children are as untrained as puppies.

But the superintendent must be able to guide mental growth as well as attend to physical training. She should be musical, and know many singing games suited to her little flock. And especially she should be alert for every opportunity of teaching the child language. If we had superintendents of this stamp, it seems to me the education of the toddlers might be left in their hands at least until the age of three.

Several open-air playgrounds with shelter available for wet weather have been established in Edinburgh, and have proved a great boon to both mothers and children.

In connection with at least one of our schools there is a small house where the elder girls go at stated times to learn housework. One wonders whether the toddlers' playground might not also in some such way be linked to the life of the schools. The girls could be a real help with the little ones, and at the same time they would themselves gain insight into child nature and child needs.

These playgrounds would in themselves do much to improve the later school efficiency of the children attending them, because of the increase of health and happiness which would result.

A few facts supplied to me by an 'infant teacher' in a slum school will round out this bald statement.

'Many of the newly enrolled five-year-olds,' she says, 'are undersized and weigh less than a normal child of three. In our 1st Infant Class this year we have three little girls, all over five, weighing 26, 27, and 28 lbs. respectively. Two of them are 32 inches in height, and the other 34. The average weight of a five-year-old normal child is about 44 lbs.

‘As you watch these little ones swaying along on their rickety little legs you wonder if they are not stray babies instead of children of five.

‘I examined the medical sheets of 44 children in my present class. Almost one-third had enlarged tonsils, and the same number enlarged cervical glands ; 12 were anæmic, and of these three had functional disease of the heart. One child who entered school when she was four years and nine months, had had in her short life measles, whooping-cough, scarlet fever, diphtheria, and pneumonia.’

Truly, as some one has said, a baby must be the hardest thing in the world to kill !

‘Winter is a very trying time for the little ones. It is pitiful to see the number of drawn little faces, and lame feet caused by broken chilblains. Debility and dirt play a large part in prolonging such troubles. Another thing, which in my opinion accounts for a good deal of ill-health, is want of sleep. When you ask these children if they are ever frightened in the dark, they look puzzled. They are *never* in the dark, but are put to sleep usually in the hot living room, where they sit up in bed and study their lesson book—which is in most cases their *only* book.

‘Handkerchiefs are the exception and not the rule, and many children have actually to be taught how to use one—or soft pieces of paper, which make an excellent substitute.

‘We have some children coming to school in bitter weather with the remnant of their breakfast slice of bread in their hands. Sometimes they have had no warm food before they come, not even a cup of tea ; and ere now we have made a cup of cocoa or supplemented the dry bread with dripping. How to educate a hungry shivering child is indeed a problem !

‘We keep a store of clothing gathered from many sources, and often have recourse to it. A little boy with chattering teeth is found to have nothing on but a thin sailor suit, and a sleeveless remnant of shirt. A daintily

dressed little girl is noticed to have bare arms during biting cold weather. While dressing her with a warm under-garment it is discovered that she is clad in the thinnest of cotton garments. Though it is contrary to the law, we still have a number of barefooted children when the weather is far too severe, and it is often a good many weeks or even months before boots can be procured. These privations often occur even when the mother is doing her very best, but there are many cases where drink and laziness on the part of the parents are allowed to make the life of the children wretched, and to ruin their chance of a decent education.'

Now should such things be ?

For my part, the more I know of the conditions of women's life in our towns, the more intimately I realise the herculean nature of their task, the less I can find it in my heart to blame these 'degraded' women who, 'blind to the duties of wifehood and motherhood,' seek in drink a momentary escape from unceasing and hopeless toil.

I do not deny that many women possess their souls and even in impossible conditions maintain the spirit of victory, but I do not know how they do it.

To allow the little children to stumble and fall by the wayside in the way we are doing is, as some one has strongly put it, 'sheer social suicide.' Society must come to the rescue of the overworked mother. The proper place for the little child, at least for a certain proportion of every twenty-four hours, is very certainly *not* the home.

Medical inspection has done much to improve the condition of school children, and it is widely recognised now that it would be more effective if it could be brought to bear at an earlier age. Every toddlers' playground or other institution for the care of children should be under medical supervision. Child-welfare work in most of our big towns is more and more aiming at establishing and guarding from the beginning the physical well-being of

every child. Prevention in this case is not only easier, but of much greater value than cure. For even if a child does win through such a series of attacks as those listed above, it is with a sadly weakened constitution.

Toddlers' playgrounds are good, but they are not sufficient. When the child comes to be three years of age, if not sooner, he requires more systematic education than is available in the playgrounds, if the wonderful years between three and five are not to be wasted. Then comes the time of the Nursery School or Free Kindergarten.

Although those who know the conditions of child life in our cities are well aware of the need for such schools, yet it may be permissible here to quote a statement with reference to Free Kindergartens made some five-and-twenty years ago by the principal of a large primary school in San Francisco.

'My school,' he says, 'is in a crowded tenement neighbourhood. I have many children from tenement houses and from the narrow streets south of Market Street. Before the days of the Kindergarten, these children, as soon as they could crawl, spent their waking lives on the sidewalks. From the age of two to six years they pursued the education of the streets.

'The consequences were that at six they came to us with a fund of information of the worst description, and a vocabulary that might excite the envy of the Barbary coast.

'At the commencement of each new year, they tumbled over each other in their rude haste to take up the unexplored life of a school. They were in tens, fifties, hundreds, in our yards.

'The novelty being past, the hard struggle commenced of keeping them from joining the army of truants, and leading them into habits of work and cleanliness.

'A freckle-faced, blue-eyed, innocent-looking boy would shock and astound us by swearing as roundly as a Nevada

mule-driver. He had four years of street training, and it was uphill work to uproot the ill weeds so rankly sown, and a slow task cultivating a different and better crop.

‘The Kindergartens have changed all this. They have taken the babies that used to be consigned to the curbstone and guided them along a path of development.

‘They have wisely attempted no cramming of the infant brain with premature scholarship. They have surrounded the young lives with a fresh atmosphere. They have passed the hours in pleasant games, taught a purer language, and led the little feet into a new civilisation.

‘The children of tenement houses and narrow streets still come in tens, fifties, and hundreds to begin life in a new school at the beginning of each school year. I hear no more, however, the wild phrases of the Barbary coast, or the mule-drivers’ oaths. The little ones are clean, self-respecting, eager for knowledge. They have opinions of their own on many things, and are quite anxious to express them. They neither know how to read nor to write. They have been taught to see, to observe, to tell about what they see and hear. They have been taught to respect older people, to be honest, to tell the truth.

‘I think you will now understand why I am so strongly in favour of Kindergartens.’

The conditions so vividly described also obtain here. Many of our little children are receiving the education of the street. In some it produces an active, roving, assertive, self-willed temperament, as in the case of the blue-eyed boy depicted above ; in others it reduces life almost to the vegetative level ; the children are, as it were, stunned by the life of the street ; they lose all initiative, all of that spirit of inquiry which to most of us seems a universal characteristic of childhood. In the one type we see the embryo hooligan, in the other the embryo loafer.

**Free Kindergartens.**—The first Free Kindergarten in this

country was opened in 1900 in Woolwich, and the second in Edinburgh in 1903. Free Kindergartens may now be found also in London, Birmingham, Manchester, Glasgow, and other places. These are for the most part supported by voluntary subscriptions, and cater for an infinitesimal fraction of the children requiring such provision.

In Edinburgh we have now five of these baby schools which provide for about 150 children. The pioneer one has now found an abiding place in the old manse of the Canongate parish in Reid's Court. To the back, on the north side unfortunately, is a pleasant garden with grass and flowers and trees. Here the little ones greet the first snow-drop of the year, and here they spend many a happy hour sweeping up the golden leaves of autumn. Here also is a little enclosure well supplied with sand where can be pursued the constructive activities dear to the hearts of children.

The little scholars are mostly brought by brothers or sisters, many of them former pupils at the Kindergarten—now at the 'big schule' over the way. First thing in the morning comes the marking of attendance combined with a talk. Then there is work with the Montessori material. At eleven comes lunch, consisting of a 'piece' brought from home and milk provided by a kind friend of the baby school. Two little monitors help to set the tables, which with flowers in the centre and a plate and mug for every child look very inviting. After the meal is over the monitors remain to wash the dishes and to tidy up. The others go to the garden for play or work, or next room for singing and marching. Later may come a nature talk or some other occupation.

At some of the Kindergartens dinner is provided. At Reid's Court the children go home for dinner at twelve, and return in the afternoon for sleep—an important 'subject' in all the Kindergarten time-tables.

**Education Act.**—The recent Education Acts of England

and Scotland have empowered Education Authorities to make arrangements for (a) supplying or aiding the supply of nursery schools for children over two and under five years of age, whose attendance at such a school is necessary or desirable for their healthy physical and mental development; and (b) attending to the health, nourishment, and physical welfare of children attending nursery schools.

It may be remarked that the clause is a permissive one. Hence it may easily become a dead letter.

Unless some member of an Education Authority realise the importance of the matter, the Authority will be apt to do nothing. There are in the Act so many compulsory alterations in our educational system that the members of an Authority may well feel that they have neither time nor energy for non-compulsory work.

As is well known, the Act provides for an extension of the school age and also for a considerable development of continuation classes.

Now I have nothing to say against these provisions. But if they are an attempt to remedy those defects in our educational system which show themselves in the fourteen-year-olds, who leave our schools then, they begin at the wrong place. If a child were properly educated from babyhood till he was fourteen, he might then be an intelligent and self-respecting person who might profitably enter on an apprenticeship, provided he had sufficient leisure to continue his cultural education in the lines of his own interests. But how many of those who leave our schools every year are competent to do this?

**Our Failures.**—It is my firm conviction that most of the failures of our present educational system have been doomed to be failures from the first day they entered the school doors. They have never been able to keep up with their companions. From the first they have resigned themselves to defeat. The fault in many cases lies back



in the early years of their childhood, and will not be remedied by two or by twenty years' more schooling.

In the Report of the Committee of the Privy Council for 1918-19 on Education in Scotland, H.M. Inspector, Mr. McKechnie, says with reference to the Glasgow Centres formed in conjunction with the Juvenile Employment Exchange: 'I am satisfied that the majority are decent boys, good at heart, but their manners and bearing are rough and often insolent, and there is a pretty widespread tendency to resent discipline and defy authority. Granted that the conditions are exceptional, and that the return to school is resented, even so the defects are serious, and the contention that control of the adolescent is necessary is abundantly proved.'

These faults of the adolescent are no plants of sudden growth, nor are they the kind of faults that are likely to be cured by further instruction on the ordinary school lines.

Mr. McKechnie goes on to say: 'The taste for literature varies greatly. As far as I have been able to judge few standard books are taken out, but generally there is appreciation of a good story. There are, however, some who cannot raise sufficient interest to read even a story book. As I have already indicated, power of concentration is frequently limited. One of the ablest teachers remarked that several of his pupils did nothing but look at the pictures, a most interesting example of the inability to grow up, partly the effect—probably mainly the cause—of the popularity of the cinema.'

Is it not pitiable that after about nine years of schooling these poor lads should be approximately at the intellectual level of a child of three? And the terrible thing is that they are now much less educable than when they were three, having lost the quick intuition, the docility, the suggestibility which make it such a delight to teach the three-year-old.

I have said that the nursery school clause in the Act is

permissive, and that therefore an Education Authority interested in other matters will be apt to let it alone.

Even if the members of the Authority do realise the urgency of the matter, they can do little without public support. For naturally we cannot have nursery schools without paying for them. And the public grudges money spent on education, more especially on what it calls educational 'fads.' An Education Authority that spent freely on nursery schools would in the present state of public opinion have difficulty in justifying its action to its constituents.

If, however, the public can be convinced that in neglecting the little children our policy is of the penny-wise-pound-foolish order, then they will support the Authorities in starting nursery schools, and will even, if necessary, put pressure on them to do so.

We can, of course, afford the money perfectly well. If the war has taught us anything it has taught us this. One day's expenditure on the war would, I suppose, equip the United Kingdom with all the nursery schools necessary.

But we like to be sure we get value for our money.

This is quite right; and it is only prudent that we should call upon those who advocate nursery schools to show that we should in actual fact get value for our money.

The people who cost our community most are the people who fill our prisons, our poorhouses, our lunatic asylums, our hospitals. We might alter a striking phrase of Milton's, and say that these people are handless mouths—that is, they *do* nothing for society, and they are a drain upon the resources of society. Anything that would diminish their number would be a positive contribution to our revenue.

That nursery schools would work in this direction is, I think, self-evident. The children attending them improve in health; they become more resistant to disease. They are happier, and their happiness, together with the relief that their temporary absence affords the mother, reacts

favourably on the home. Jangled nerves have time to recover, and the necessary household work is done in peace.

One would be glad to have some definite statistics on this matter, but I do not know of any in this country. In America, Kindergartens have been tried on a much more extended scale. In a paper read before the International Congress of Education, Chicago, in 1893, Mrs. Sarah B. Cooper, who has done so much for Free Kindergartens, claimed that out of nine thousand children who had started their school life in the Kindergarten there had been found only one arrest.

Again, in all our large elementary schools there are a considerable number of retarded children. Some of these children fall into line again after being 'kept back'—that is, after being made to do the same work over again a second year. Some, however, never fall into line. They form the tail end of whatever class they are put into. Not only do they learn little or nothing themselves, but they act as a drag upon the others.

Now in the case of these children we are not getting value for our money.

Would a parent like to send his son to school, pay his fees for five years, and at the end of that time find that he can neither read nor write ?

Yet the State, which with regard to education stands to some extent *in loco parentis* to these children, can afford to fling away its money—our money—in this way.

I do not say that the percentage of children who at ten years of age—that is, after five years of schooling—are unable to read and write is a large one. But to a parent each child is of importance. In this matter we must follow the example of the good shepherd who left the ninety and nine in order to search for the one sheep that was lost.

In Scotland we have a general test called the Qualifying Examination which all children ought to pass at twelve years of age. The requirements of this test are : Ability

to read at sight a passage of moderate difficulty, to write to dictation, to answer questions on the text of the reading book, to write a composition, the heads being given; arithmetic involving the four simple rules, common weights and measures, and a slight knowledge of fractions; reasonable proficiency in the other subjects approved in the scheme of work for the class. If a child cannot pass this very reasonable test after seven years' schooling, are we getting value for our money?

In the Annual Report for 1917-18 of the Edinburgh School Board I find it stated that 612 pupils having attained the age of fourteen left school to go to work without passing the Qualifying Examination. This is not a negligible number.

The following table, taken from the same report, shows how many retarded children there are in the Edinburgh schools:—

SUMMARY OF SCHOLARS AT THE DIFFERENT AGES IN  
THE VARIOUS DIVISIONS

	BETWEEN THE AGES OF											
	4 and 5	5 and 6	6 and 7	7 and 8	8 and 9	9 and 10	10 and 11	11 and 12	12 and 13	13 and 14	14 and 15	15 and 16
Infants	105	3026	4080	2520	565	94	17	5	1			
Junior Division	...	...	52	1672	3658	3402	1435	436	111	32	8	
Senior Division	...	...	...	...	13	925	2849	3696	2664	1367	139	6

The children who are in the class normal to their age are indicated by the dark lines enclosing the numbers. The numbers to the left show advanced children—children

who are young for their class ; the numbers to the right show retarded children.

In many cases the retardation is a matter of little or no moment. If a child is taking an intelligent part in the intellectual life of the class and is happy in it, I should not worry about a certain amount of retardation. Let us, on the supposition that this is so, neglect all the children who are just one year retarded ; I have indicated them by means of dotted lines. When we now examine the table we see that there are more than 600 children between the ages of eight and thirteen who are still in the Infant Department, which they ought to have left at the age of seven ; there are more than 500 children between the ages of eleven and fifteen still in the Junior Division, which they ought to have left at the age of ten ; there are more than 1500 children over thirteen still in the Senior Division, which they ought to have left at the age of twelve.

Even of these two year retardations of course a considerable proportion can be more or less satisfactorily accounted for. Irregular attendance, bad health, degrading home conditions, etc., play their part. But these causes also require to be investigated individually with a view to their removal. Moreover, none of those I have mentioned need be a real obstacle to intellectual progress. The main cause of backwardness is, I am convinced, to be sought and found in the widespread belief that intellectual training in the first five years of life is impossible, or useless, or positively harmful.

The five-year-old whose mental training has been neglected is apt to find himself inefficient, unequal to the occasion in every class. If he is physically fit, he seeks to re-establish himself in his own eyes and the eyes of his companions by naughtiness, impertinence, mischief, and general unruliness. If he is of depressed vitality or of an amiable, conciliatory disposition, he does his best to pick up answers that may satisfy the teacher ; but he has no

real convictions about the rightness or wrongness of his own answers.

For this state of things I would not have it for a moment supposed that I blame the teachers. I have personal knowledge of the work of a number of teachers in elementary schools and I have the greatest admiration for it. They are doing excellent work under conditions that are often devitalising and depressing. Their very mistakes are often the product of over anxiety to help the progress of their pupils.

**The Remedy.**—At this stage those of my readers who know anything of education in the schools of the nation are saying to themselves : ‘ Of course the classes are too large ; every one is agreed about that, and that is one of the things that is going to be remedied.’ Not long ago (4th August 1919) Mr. D. M. Cowan stated in Parliament that he hoped classes would ultimately be reduced to twenty or thirty pupils. The Secretary for Scotland said the size of classes was a vital question, and the Department bore it in mind. He did not know that he could give any definite undertaking in regard to it, but they were quite alive to individual teaching, which was necessary to secure effective educational training.

It may be that the classes are too large. Certainly if a teacher feels that his class is too large, then it is too large.

In this matter, however, we are as usual beginning at the wrong end. We assume that education is more important, and therefore more individual attention is required, the higher we ascend the schools. So we decrease numbers in Higher Grade classes.

Now if there is any class in school where the amount of individual attention that can be given by a teacher, who at the same time is in charge of the class as a whole, is a profitable investment it is in the Infant Department—in the newly enrolled class. Here the material is most

malleable, and is least affected by those confused ideas and senseless prejudices which characterise the backward child in the upper school. If every child could be educated on individual lines until he was seven, then we should have little or no complaint of the size of classes in the upper school.

If at seven years of age our children were all still eager to learn what the school has to teach, if they knew the difference between understanding and not understanding, if they could ask questions which would focus their own difficulties, if in a word we could count on the intelligent and eager co-operation of every member of the class, then the work of teaching would be a delight. It is the child who does not know what it is to understand, who has never in his life experienced the pleasure of a clear-cut thought, that forms the problem. He knows the path of learning is beset with thorns, but he can neither cut his own way through nor can he indicate to us where for him the thorns are thickest. We labour to remove difficulties he has never even reached, and are blind to those which hold him prisoner.

When I speak of education on individual lines I mean what I say ; I do not mean class education, no matter what the size of the class is. If you take even twenty unselected five-year-olds, and teach them on class lines, you will be wasting the time of some, while you are going too fast for others. Each child is really at a different stage and each child has his own characteristic rhythm of learning.

Now the only system that I know that renders individual education possible with large groups of children is education conducted on Montessori lines ; that is, the child must be provided with material which will, with a certain amount of direction from the teacher, enable him to educate himself. By this system groups of forty or more children can, under the superintendence of one teacher, receive instruction exactly adapted to their needs. Under-pressure and over-pressure are both avoided.

One remedy, then, for the existing state of things would be to individualise instruction in the infant classes.

Something else is necessary also. What is to happen to the large number of slow and backward children in the upper school who are the real cause of the teachers' outcry for smaller classes ?

These children are probably to a large extent unfit for education on Montessori lines because they have lost the eager activity and initiative of childhood. Smaller classes will not help them, for even with a class of twenty, one cannot give them the attention they require without doing injustice to the rest. In the favourable conditions of the private school where the classes numbered from five to fifteen or so, I have several times met with those retarded children. I did not at that time know so much about the nature of the problem they present as I do now ; I took them as they came, and I did my best with them. But I knew then, and I know still better now, that they were not getting the kind of attention they required ; and they were affecting very unfavourably both the spirit of the class and the work of the class.

The remedy does not lie in smaller classes.

What we want is the services of a specialist teacher who shall take these problems of the classroom individually, find out what is the source of the trouble, and take steps to remedy it. Such a teacher should be provided with a small room pleasantly furnished, not as a classroom, but as a sitting-room with a table in the centre at which several people can write. She must have had a thorough training in the psychology of childhood, and in the modern methods of diagnosing psychic disturbances. She must combine with her knowledge quick sympathy, a sense of humour, considerable ingenuity, and a readiness to enter into children's play. She should also be imbued with the spirit of the student, for in this region much research is still necessary, and the writing of reports on the psycho-



logical aspects of her work, the keeping of charts of individual progress, etc., should be a recognised part of her duties.

In *Erewhon*, when one felt a temptation to make off with one's neighbour's goods or otherwise break the moral law, one went to the 'Straightener' and he advised what one should do for the health of one's soul. The teacher whom I have depicted would be a Straightener. Any child who was not doing satisfactorily in class would be sent to her and she would devise remedies.

Each such child would be interviewed by her individually, at which interview she would test his intelligence and by other means at her command diagnose the trouble. Thereafter he would come to her either alone or with others at such times as she might appoint, in order that a remedy might be applied.

Inability to make progress in arithmetic is a very common complaint among the retarded children. The Straightener would see these children for five minutes, ten minutes, half an hour, once, twice, or thrice a week. (See Chap. VIII.) She might have several of them at one time playing number games round her table. She would in time return many, if not all of them, to their classes able to march with the class, with the teacher of which she would be in close touch.

This method of dealing with the problem would be more successful, more scientific, less expensive than simply reducing the size of all classes.

**Place of the Nursery School.**—The work of the Straightener would be rendered very much easier, and indeed in time might almost disappear, if every elementary school were fed by a little group of nursery schools.

In this place I do not propose to go into the various administrative questions connected with these schools. The size of the school, the staff, the building, the furnishing must be settled in the light of experience and with due

regard to local conditions. The Board of Education has issued Regulations for Nursery Schools <sup>1</sup> which are accepted as very satisfactory by those who have experience in this matter. And of course no one about to concern himself with the starting of such a school should fail to see a few of those already in existence.

In the present state of our knowledge of child psychology the curriculum of the nursery school should be regarded as a field in which much careful experimental work is still desirable.

In our country those who have most clearly recognised the necessity of giving to the little child a systematic education have been emphatic in asserting their conviction that no formal training in reading, writing, or arithmetic should be given. This has often resulted in no incidental training being given either. And in the case of number especially this is, I am convinced, a very great mistake.

Number is the *pons asinorum* of the school child, and many there are who stumble thereon. It seems to me that the nursery school period is certainly, in the case of most children, the period when the art of counting should be acquired; and that the teacher should lose no natural opportunity to bring the number aspect of things before the child's notice. (Cf. p. 130.)

Our attitude towards reading and writing in the nursery school ought to be profoundly modified by the results of Dr. Montessori's experimental work. Whatever difference of opinion may exist as to the wisdom of adopting her method in its entirety there are, I think, no two opinions with respect to her method of teaching writing. Every one admits that she has enormously facilitated the child's task in acquiring this difficult art.

Now Dr. Montessori says that by her method the child can best learn to write between the ages of four and five.

<sup>1</sup> *Education, England and Wales : Regulations for Nursery Schools*, 1919. Price 1d.

‘The analysis of sounds which, in our method, leads to spontaneous writing, is not, to be sure, adapted to all ages. It is when the child is four or four and a half that he shows the characteristically childlike passion for such work, which keeps him at it longer than at any other age, and leads him to develop perfection in the mechanical aspect of writing. . . . In general, all children of four are intensely interested in writing, and some of our children have begun to write at the age of three and a half. We find the children particularly enthusiastic about tracing the sandpaper letters. . . . The average time that elapses between the first trial of the preparatory exercises and the first written word is, for children of four years, from a month to a month and a half. With children of five years, the period is much shorter, being about a month, but one of our pupils learned to use in writing all the letters of the alphabet in twenty days. Children of four years, after they have been in school for four months and a half, can write any word from dictation, and can pass to writing with ink in a notebook. Our little ones are generally experts after three months’ time, and those who have written for six months may be compared to children in the third elementary. Indeed writing is one of the easiest and most delightful of all the conquests made by the child.’<sup>1</sup>

Children who begin to learn to write at five, although they learn more quickly than the four-year-olds, do not, according to Dr. Montessori, attain to such perfection, because they are not willing to trace the sandpaper letters such a number of times. With them the most favourable time for learning this particular activity is already passing away.

If this be so, it is clearly important that we should reconsider the position that has hitherto been taken up with regard to reading and writing in the nursery school.

<sup>1</sup> *The Montessori Method*, p. 294.

In four of the Free Kindergartens in Edinburgh, where the children enter usually at three and remain till five, the Montessori material is used. In Reid's Court it has been in use now for about five years. The period devoted to its use is much shorter than in the Montessori schools, being about three-quarters of an hour each day ; but not one of our children has learned to write nor have they shown much interest in analysing sounds. Margaret, on the other hand, did display this interest, but I was not able to experiment satisfactorily in her case with the necessary material at the most favourable age ; and when I had an opportunity she had reached the stage when she did not feel moved to touch the letters sufficiently often. (See p. 103.)

Dr. Montessori says that the children often recognise the letters by touch before they can recognise them by sight. We were able to confirm this observation in the case of certain Kindergarten children, but Margaret, who could readily recognise the letters by sight, found it very difficult or impossible to identify them by touch. (Cf. p. 107.)

Instruction according to the Montessori method is not, of course, to be reckoned as formal. By that word in this connection we usually mean administered to the child in class and at certain fixed times. The Montessori child is free to take the instruction or to leave it. No one forces it upon him.

With our children at Reid's Court I feel if the habit of writing should once develop among them, then it would maintain itself ; but so far, any child who has begun to write a little has had almost immediately to leave us for the 'big school,' and so once more writing has ceased to be visible as one of the little ones' activities. The impulse to imitate, I am convinced, has much to do with the success of the Montessori material.

If writing finds a place in the nursery school then, of course, reading would also, for the child, having translated

the sounds which make up a word into written symbols,<sup>1</sup> has now to translate it back into sounds—that is, read the word he has made. This is the more difficult task. Writing, indeed, is distinctly easier for the child than reading ; as is shown by the fact that some defective children learn to write well, though they do not succeed in learning to read.

Whatever we may think of the problem presented by the three R's, every one is agreed that language training is an important function of the nursery school. I have already made various suggestions as to method. (See Chaps. iv., v.)

Music is one of the talents which develop early. Mere babies can recognise and sometimes hum tunes. Children so defective in intelligence that they cannot learn to speak will recognise and join correctly in tunes sung by the class. In all Kindergartens much time is rightly given to singing games. These, of course, help to teach language, and many can be obtained which help to teach number also.

Even Kindergarten children respond readily to differences of time and rhythm in music. Our children at Reid's Court express waltz time by a swaying movement from side to side. This response they developed themselves.

At one or two of our Scottish Kindergartens I have heard a band. With drums, triangles, and two pairs of blocks clashed together the children with a little guidance make a pleasurable symphony.

The question of handwork is an important one. I am inclined to think that the proper place for handwork, as the term is usually understood, is not in the nursery school at all, but in every department of the 'big school.' When Margaret was about three her most beloved occupation was wrapping up parcels, a very suitable form of hand-

<sup>1</sup> This he does first by means of a movable alphabet, not by actual writing.

work, which involved frequent changes of bodily position. To move across a room silently, to open and shut a door without sound, to move light little chairs and tables, to dust a room, to wash dishes and dry them, to wash and dry one's own hands and face, are occupations which will delight the three and four year olds. But five is young enough for even the simplest forms of paper-folding and clay-modelling.

Dr. Montessori's didactic material as prepared for the little ones in the children's houses should be available in every nursery school. The hand training given by the use of this material exactly meets the children's needs. Free drawing also is an occupation which attracts early.

Games should be played in the nursery school, and continued in the 'big school.' At present the transition between the two schools is too sudden ; and the first effect of the change is a lowering of the mental level, and with that the vitality of the children. This depressing effect of the entry upon school life seems to hold everywhere. In France children leave the Kindergarten at six years of age—a year later than with us. Schuyten, in his work on feminine education, has some very striking paragraphs on the immediate psychic influence of the school. The child in the Kindergarten enjoys an immense amount of liberty ; his need of movement is recognised and his muscular energy is allowed scope. His teacher is like a mother to him ; school does not weigh on him too heavily. At six years of age he is brusquely thrown into the life of the big school, where there is no garden, no play ; where discipline is severe, and movement forbidden. The child is disillusioned ; his expansion ceases ; he returns within himself ; his personality contracts ; he develops fear ; he dare no longer see, hear, or speak so well as he did ; he falls into a state of depression from which he may take some years to recover.

If the first few weeks in the Infant Department were devoted quite simply to making the children happy, the

time would be well spent. Fixed desks should be abolished, so that there might be plenty of room for marching and running and dancing and skipping. Every day should be like the nicest kind of children's party where there are plenty of sensible games, and no over-excitement. If I were an inspector I should regard no infant class as satisfactory, unless the children were joyful.

If the Montessori method and the Montessori spirit were introduced into the Infant Department matters could not fail to improve. Time would be given to the children to adjust themselves; in fact if they had in the nursery school been accustomed to work with the Montessori material, the very sight of the apparatus would make them feel at home at once. We should then have some chance of obtaining that continuous growth of the mind which is so essential for healthy and harmonious development.

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